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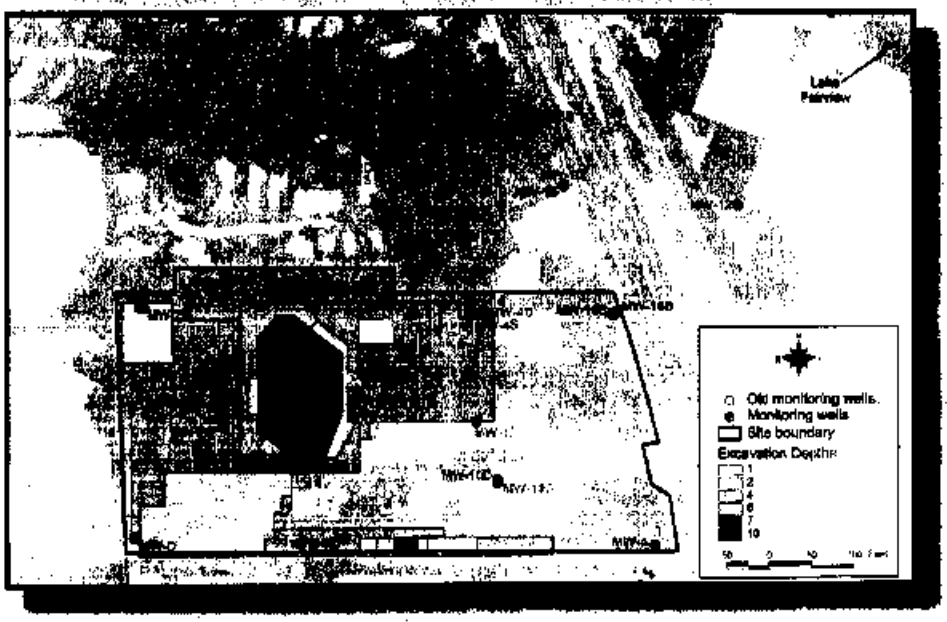
Final

First Five-Year Review for Chevron Chemical Company Site, Orlando, Florida



Prepared for:

United States Environmental
Protection Agency
Region IV
Atlanta, Georgia

March 21, 2003

geomega

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Executive Summary

The remedy for the Chevron Chemical Company Site in Orlando, Florida included excavation and off-site disposal of soils, installation of fencing, implementation of institutional controls, and monitored natural attenuation of groundwater. Soil remediation actions began in February 1992 and were completed by April 1994. A final construction and Remedial Action Report Amendment for the soil removal activities was completed in July 1994, and approved by the Environmental Protection Agency (EPA) in 1996. Monitored Natural Attenuation (MNA) was selected as the remedy for contaminated groundwater on the site in the Record of Decision (ROD) issued by the EPA to Chevron on May 22, 1996. The triggering action for this statutory review is the initiation of the remedial action in July 1997.

The assessment of this five-year review found that the remedy has been performed in accordance with the requirements of the ROD and is functioning as designed. The immediate threats have been addressed and the remedy is expected to be protective when groundwater cleanup goals are achieved through monitored natural attenuation.

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name (from WasteLAN): Chevron Chemical Company

EPA ID (from WasteLAN): [redacted]

Region: [redacted]	State: FL	City/County: Orlando/Orange

SITE STATUS

NPL status: Final Deleted Other(specify):_____

Remediation status (choose all that apply): Under construction [redacted] Complete

Multiple Ous*? Yes [redacted]	Construction completion date: [redacted]

Has site been put into reuse? Yes [redacted]

REVIEW STATUS

Lead agency: [redacted] State Tribe Other Federal agency:_____

Author name: Andy Davis

Author title: Director of Geochemistry Geomega Consultants	Author affiliation: PRP

Review period:** 9/3/2002 – 12/15/2002

Date(s) of site inspection: 4/20/2002, 9/3/2002

Type of review: [redacted] Pre-SARA NPL-Removal Only
Non-NPL Remedial Action Site NPL-State/Tribe-lead
Regional Discretion

Review number: [redacted] 2(second) 3(third) Other(specify) _____

[redacted]
Actual RA On-Site Construction at OU#1 Actual RA Start at OU# ___
Construction Completion Previous Five-Year Review Report
Other (specify) _____

Triggering action date (from WasteLAN): July 1997

Due date (five years after triggering action date): December 2002

* "OU" refers to Operable Unit
** Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN

Five-Year Review Summary Form, cont'd

Issues:

The efficacy of the monitored natural attenuation remedy requires future verification until ROD compliance has been attained.

Recommendations and Follow-up Actions:

Monitored natural attenuation sampling - reduce frequency of or eliminate some analyses. COC analysis should continue annually at MW-1S and MW-1D. Synoptic Spring and Fall monitoring rounds should be conducted in 2004 and 2006 prior to the next five-year review.

Protectiveness Statement(s):

The remedy is expected to be protective of human health and the environment upon attainment of groundwater cleanup goals, through natural attenuation. In the interim, exposure pathways that could result in unacceptable risks are being controlled and institutional controls are preventing exposure to, or the ingestion of, groundwater. All threats at the site have been addressed through excavation of soil, installation of fencing, and implementation of institutional controls. Long-term protectiveness of the remedial action will be verified by sampling of on- and off-site monitoring wells according to the recommended sampling and analytical plan. Current monitoring data indicated that the remedy is protective of human health and the environment.

Other comments:

None.

Winston A. Smith
Director, Waste Management Division

5-2-03
Date

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List of Acronyms

AOC	Action Order of Consent
ARARs	Applicable or Relevant and Appropriate Requirements
ATSDR	Agency for Toxic Substances and Disease Registry
BCC	Brown and Caldwell Consultants
BHC	Benzene Hexachloride
γ BHC	Lindane
BRA	Baseline Risk Assessment
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CCC	Chevron Chemical Company
COC	Constituent of Concern
DBP	p-p-dichlorobenzophenone
DDA	bis(p-chlorophenyl)acetic Acid
DDD	1,1-dichloro-2,2-bis(p-chlorophenyl)ethane
DDT	1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane
EPA	Environmental Protection Agency
EVS	Environmental Visualization System
FDEP	Florida Department of Environmental Protection
GAC	Granular Activated Carbon
HDEP	High Density Polyethylene
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
MNA	Monitored Natural Attenuation
MTBE	Methyl Tertiary-Butyl Ether
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operations & Maintenance
OSWER	Office of Solid Waste and Emergency Response
OU	Operable Unit
PCCH	Pantachlorocyclohexene
PQL	Practical Quantitation Limit
RfD	Reference Dose
PRG	Preliminary Remediation Goal
RAO	Remedial Action Objectives
RD/RA	Remedial Design / Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SACM	Superfund Accelerated Cleanup Model
TBC	To be Considered
TEQ	Toxicity Equivalent
UAO	Unilateral Administrative Order

1 Introduction

The purpose of the five-year review is to determine whether the remedy at the site is protective of human health and the environment. The methods, findings, and conclusions of previous investigations and groundwater monitoring reports are documented in this Five-Year Review report. In addition, this Five-Year Review report identifies issues found during the review, and presents recommended actions to address them. This Five-Year Review report is prepared pursuant to CERCLA §121 and the National Contingency Plan (NCP). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

This requirement is interpreted further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

This five-year review addresses the remedy implemented at the Chevron Chemical Company Site in Orlando, Florida. This review was conducted from September through December 2002. The review was conducted by the United States Environmental Protection Agency (EPA), Region IV, with contributions from Geomega Incorporated and TASK Environmental, Inc. The Florida Department of Environmental Protection (FDEP) provided input during a 5-year review meeting held in Wakulla Springs, Florida on November 20, 2002. This report documents the results of the review.

This is the first five-year review for the Chevron Chemical Company Site located in Orlando, Florida. The triggering action for this statutory review was the initiation of the remedial actions in July 1997 as dictated in the Record of Decision (ROD). The five-year review is required because contaminants remain in the groundwater at the site above levels that allow for unlimited use of the site and unrestricted exposure.

2 Site Chronology

Table 2-1 presents a chronology of the Chevron Orlando site events.

3 Background

3.1 Physical Characteristics

The Chevron Chemical Company (CCC) Orlando Site is located in Orange County, Florida at 3100 North Orange Blossom Trail (U.S. Highway 441) in the city of Orlando, Florida [Township 22 S, Range 29 E, Section 15] (Figure 3-1). The site covers 4.39 acres of cleared, relatively flat terrain with grassy vegetation, and trees along the northeast perimeter. The site is currently unoccupied and fenced to discourage access. There are no permanent structures currently on the site. An aluminum utility shed and two HDPE containers are on-site for the collection of purge water for treatment and disposal during groundwater monitoring events.

The Orlando site is bordered on the east by Orange Blossom Trail (U.S. Highway 441) and the south by active railroad tracks operated by CSX (Figure 3-2). The land use in the areas to the south and west of the site is light industrial, historically including two construction companies with underground storage tanks, two gasoline service stations with underground storage tanks, a door and trim manufacturing company, and a lumber company. Industrial land use to the north and east includes a seed company and the Fairview Commerce Park. Two residential mobile home parks, the Armstrong Trailer Park and 441 Trailer Park, are north of the site (Figure 3-2).

The Lake Fairview Commerce Center is located across the highway from the eastern portion of the site. Lake Fairview, a 400-acre remnant karst lake, is located approximately 700 feet northeast of the site (Figure 3-2). The water level in the lake is maintained at an elevation (87.4 feet above mean sea level [amsl]) below the ambient groundwater level by a drainage well located on its northwest side.

The site is underlain by a surficial aquifer and the deeper Floridan aquifer. The surficial aquifer occurs within undifferentiated sediments of Pleistocene age and is encountered at a depth of 10 feet or less at the site. The saturated thickness of this aquifer at the site is 17 to 20 feet. Groundwater flow in the surficial aquifer is northeast toward Lake Fairview; the gradient is approximately 0.006 feet/feet. The Floridan aquifer is encountered at a depth of approximately 70 feet at the site. It occurs within the following formations, in descending order, the Miocene age Hawthorn Group (50 to 300 feet thick), the Ocala limestone (0-125 feet thick), the Avon Park limestone (400 to 600 feet thick), and the Eocene-age Lake City limestone (over 700 feet thick). The sedimentary deposits overlying the crystalline basement in Orange County are approximately 6,500 feet thick.

3.2 Land and Resource Use

The Chevron Orlando site is a former pesticide and nutritional spray-formulating plant that was owned and operated by CCC from 1950 to 1978. In 1978, Mr. Robert Uttal purchased the property and operated a truck sales and service company on the property. Mr. Uttal discontinued the operation of the truck sales and service facility in 1986, and in 1987 leased the property for vehicle storage. Operations at the site ceased in 1991. Chevron purchased the property in foreclosure from First Union Bank and the Resolution

Trust Company in 1993 and 1994, respectively. Chevron is the current site owner and conducts the site environmental monitoring.

The site is currently unoccupied and fenced to discourage access. The site is not currently in use and the groundwater in the surficial aquifer underlying the site is currently not used as a source of drinking water. Future land use at the site is expected to be commercial or industrial. A deed restriction has been implemented to prevent residential development of the site.

3.3 History of Contamination

Chevron Chemical Company

In 1950, CCC purchased the 4.39 acre Orlando site and constructed a pesticide formulation plant, which it operated through 1976. From 1950 through 1976, the facility received unblended products in bulk liquid and powder form, and combined the products to formulate pesticides and nutritional sprays for bulk wholesale distribution. The unblended products were delivered primarily by rail, with drum-packaged formulated products removed by truck (TASK/PTI 1994b).

Parathion, chlordane, phaltan, captan, malathion, and paraquat were the primary products formulated at the site. 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane (DDT), difolatan, lindane, dieldrin, aldrin, dibromamine, and aqueous solutions of copper, zinc, manganese, sulfur, and boron (nutritional sprays) were also produced. Chemical carriers and solvents used in pesticide formulation included xylene, kerosene, mineral oil, mineral spirits, ethylbenzene, and aromatic naptha (TASK/PTI 1994a).

Rinsate ponds were used for the collection and disposal of stormwater, pesticide formulating rinse water, drum rinse water, and floor wash-down water. Two site buildings, an office building and a warehouse, were constructed on concrete pads. Chevron discontinued the formulation of pesticides in 1976. The rinsate ponds were backfilled with soil prior to sale of the site.

Central Florida Mack Trucks

In 1978, Mr. Robert Uttal purchased the property and began to operate Central Florida Mack Trucks, a truck sales and service company. Mr. Uttal retained ownership of the site until 1993. Mr. Uttal removed the remaining pesticide formulation equipment and all but one of the above-ground storage tanks. The interior of the warehouse was then washed with soap and water to remove any remaining pesticides. The floor was also rinsed with mineral spirits that were reportedly discharged to the ground surface in the area of the rinsate ponds. After cleaning the warehouse, Mr. Uttal constructed four service bays for truck repair and service and reportedly filled the underground storage tank with concrete.

Central Florida Mack Trucks repaired and serviced diesel engine trucks. Body work and painting were also conducted at the site. The facility generated waste oil and waste degreasing solvent (from the engine and parts cleaning operation). A waste oil trough

was located along the railroad spur on the southwestern side of the site. Used oil filters, waste oil, diesel fuel, paint, and partially filled drums of powdered pesticides were discovered in the rinsate pond area during the first Removal Action, along with discarded truck parts and debris. The collocation of these materials demonstrates that they were generated and buried during the period of operation of the Mack Truck facility.

In March 1984, during the operation of Central Florida Mack Trucks, a tanker truck (owned by Waste Management, Inc.) containing three percent hydrochloric acid and an unknown grade of nitric acid, was stored onsite for repair. The tanker leaked an estimated 3,000 to 6,000 gallons of acid, which resulted in an explosion in the vicinity of the western rinsate pond. Waste Management excavated the spill area and disposed of the contaminated soils. The excavation was backfilled with clean fill (Brown and Caldwell Consultants (BCC) 1990).

3.4 Initial Response

In addition, Chevron entered into an Administrative Order by Consent (AOC) with the EPA during 1990 to conduct a Contamination Assessment and Removal Plan for the site. Site contamination was assessed by BCC in accordance with the requirements of the AOC in order to investigate the potential for off-site migration of contaminants in the groundwater, and characterize the magnitude and extent of soil contamination (BCC 1990). A screening investigation of the groundwater was conducted to determine the maximum extent of groundwater contamination to the north and east of the site. A soil gas survey was conducted in the southwestern corner of the site to further define the nature and extent of petroleum product contamination in this area. The results of the soil gas survey, combined with the grid sample analytical results, were used to define an area of soil with petroleum product contamination where pesticide contamination was absent.

As a result of soil screening activities, a Removal Action was conducted by BCC from December 1991 through September 1992 (BCC 1991; 1992). The objective of this removal action was to excavate and remove material which could be a source to groundwater contamination or a risk to human health via the inhalation and dermal contact routes of exposure (as defined by the Agency of Toxic Substances and Disease Registry (ATSDR)). The ATSDR cleanup goals were to remove shallow soils (0- to 1-foot below ground surface [bgs]) with chlorinated pesticide concentrations in excess of 50 mg/kg, and remove deeper soils (1-foot bgs to the static water table) with chlorinated pesticide concentrations in excess of 100 mg/kg (TASK/PTI 1994b). The ATSDR further recommended the use of chlordane as an indicator chemical for the soil removal.

During the Removal Action (Figure 3-2), all remaining site structures were demolished and removed, 17,780 tons of pesticide-contaminated soil were excavated and properly disposed off-site, 4,900 tons of petroleum-contaminated soil were excavated and treated on-site, 90 to 100 gallons of a free-phase liquid were extracted from subsurface soils and disposed off-site, and 126,000 gallons of stormwater and groundwater recovered during the soil excavation were treated and discharged into an onsite infiltration trench. All excavated areas were backfilled with clean soil and the site graded and seeded.

The *Removal Action Report* (BCC 1992) describes the 1992 removal activities, presents a pre-Removal risk analysis, and discusses the groundwater investigations which were conducted. This report was submitted to the EPA in December 1992.

In 1993, Chevron voluntarily entered into another AOC with the EPA to conduct a Remedial Investigation/Feasibility Study (RI/FS) pursuant to the EPA's Superfund Accelerated Cleanup Model (SACM). The intent of this RI/FS was to further evaluate the migration of groundwater contaminants and investigate the potential for off-site soil contamination at the adjacent Armstrong Trailer Park resulting from historical stormwater runoff from the site.

The Remedial Investigation was performed as a dual-phase investigation conducted at the site from April 27, 1993 through April 29, 1994. Phase I activities were conducted to determine the nature and extent of potential groundwater contaminants using existing monitor wells. Phase II activities were designed to further assess the magnitude and extent of groundwater contamination, based on a computer model simulation of the contaminant plume (TASK/PTI 1994a).

Laboratory analytical results of the Phase II RI field sampling and analysis program identified chlorinated pesticide contamination in soil samples from isolated areas of the Armstrong Trailer Park, located adjacent to and downgradient from the northwest corner of the site.

Based on Phase II RI results, an additional Removal Action was conducted to excavate and remove the 0- to 1-foot layer of soil in five designated areas in the Armstrong Trailer Park property during March and April 1994 (Figure 3-3; TASK 1994). During this additional Removal Action, approximately 227 tons of soil containing chlordane at concentrations > 4.9 mg/kg was excavated and removed from the trailer park. The excavated areas were restored with clean soil and the site graded and covered with sod.

The additional Removal Action also encompassed treatment of groundwater generated during the RI pumping test and purging of the monitor wells, and disposal of drill cuttings and drilling mud collected in drums during the Remedial Investigation monitoring well construction. Approximately 6,000 gallons of pumping test and purge water were treated with a diatomacious earth filter to remove suspended particulates, followed by filtration through granular activated carbon (GAC) canisters. The treatment was accomplished in two batches, each of which was sampled and analyzed for hydrocarbons and chlorinated pesticides. No contaminants were detected in either batch of treated waters. The treated water was discharged on the Chevron Orlando site via spray irrigation.

The additional Removal Action successfully met the Removal Action goal by excavation and off-site disposal of soil with chlordane concentrations exceeding the preliminary remediation goal (PRG) of 4.9 mg/kg, demonstrated by the analytical results for confirmation samples and samples of the backfill material (TASK 1994). At the

completion of the additional Removal Action, approximately 40 tons of material from the site were transported to and disposed of in the Springhill Regional Landfill.

The *Removal Action Report Amendment* (TASK 1994) describes the 1994 removal activities, presents analytical results for confirmation samples and backfill material, and discusses the groundwater treatment and disposal conducted during the Remedial Investigation. This report was submitted to the EPA in December 1994.

In May 1994, the site was finalized on EPA's National Priority List (NPL). The listing was based on analytical results indicating the presence of pesticides, metals, and hydrocarbons in groundwater. The RI/FS documents were finalized in March 1995 and concluded that concentrations of groundwater contaminants had generally decreased with time and the contaminant plume had apparently reached equilibrium, ceasing to migrate beyond its current position (TASK/PTI 1994b).

In May 1996, EPA issued a ROD determining the groundwater remedy at the site to be monitored natural attenuation (MNA) and concluded that "No Further Action" was necessary to protect human health from exposure to on-site or off-site soils. This ROD set risk-based action levels for on-site surface and subsurface soils, on-site groundwater, and off-site surface soils.

In July 1997, EPA issued a Unilateral Administrative Order (UAO) to Chevron to implement the actions set forth in the ROD. Under the UAO, Chevron continues to monitor the groundwater biannually and submit the results to EPA for review.

3.5 *Basis for Taking Action*

Contaminants

Hazardous substances identified as COCs by the EPA in the ROD include:

On-Site Surface Soil	On-Site Subsurface Soil	On-Site Groundwater	Off-Site Surface Soil
4,4'-DDD	4,4'-DDD	4,4'-DDD	Chlordane
4,4'-DDE	4,4'-DDE	α-BHC	Dieldrin
4,4'-DDT	4,4'-DDT	β-BHC	Lead
Aldrin	Aldrin	γ-BHC (lindane)	
β-BHC	α-BHC	Chlordane	
Chlordane	β-BHC	Benzene	
Dieldrin	γ-BHC (lindane)	Ethylbenzene	
Heptachlor Epoxide	Chlordane	Xylenes	
	Dieldrin	Total naphthalenes	
	Endrin	Arsenic	
		Chromium	
		Lead	
		Arochlor-1260	
		1,4-Dichlorobenzene	
		Chlorobenzene	

A Baseline Risk Assessment (BRA) (Black & Veatch, 1995) was conducted in 1994 to assess the soil and groundwater contamination present on-site. Presently, ingestion of groundwater on-site or at one location adjacent to the site (MW-1) would pose an unacceptable risk based on the exceedance of risk-based cleanup levels and/or maximum contaminant level (MCL). However, no drinking water wells are currently located within the area of the groundwater plume.

Based on the results of the BRA (Black & Veatch, 1995), plume attenuation and stability calculations (Geomega, 2000d, 2001b, 2002b), and the ROD's on-site soil determination (EPA 1996), the medium of concern for remedial action is groundwater.

Since the groundwater in the surficial aquifer is not currently consumed it poses no risk to human health. Ingestion of groundwater at the site in the near future would be associated with unacceptable risk, because the groundwater contains contaminants above federal and/or State of Florida groundwater cleanup goals. These contaminants are limited to α-benzene hexachloride (α-BHC), β-BHC, γ-BHC, benzene, and chromium as all other COCs identified by the ROD currently meet federal and state goals. Exceedances of the chromium standard in local monitoring wells are not attributed to site conditions (Geomega 2001b). Recent plume attenuation and stability calculations (Geomega 2000d, 2001b, 2002b) indicate that there has been ongoing COC mass reduction and the plume center-of-mass has remained stable over the last nine years. In

addition, any potential consumption of groundwater on-site has been obviated via deed restrictions (EPA 1996). Therefore, potential threats of releases of hazardous substances from the site have been addressed through implementation of the response action selected in the ROD to prevent "an imminent and substantial endangerment to public health, welfare, or the environment."

4 Remedial Actions

4.1 Remedy Selection

The ROD for the Chevron Orlando site was signed by the EPA on May 22, 1996. Remedial Action Objectives (RAOs) were developed as a result of data collected during the RI/FS to develop and screen remedial alternatives to be considered for the ROD. Following the 1992 on-site source material excavation and removal, and the 1994 off-site soil removal activities at the Armstrong Trailer Park, groundwater issues were the focus of the selected remedial actions presented in the 1996 ROD. Therefore, the RAOs for the site were developed only for groundwater and include the following:

Source Control Response Objectives

- Prevent potential ingestion of contaminated groundwater for the protection of human health;
- Prevent further groundwater quality degradation for the protection of the environment;

Management of Migration Response Objectives

- Prevent exposure to groundwater contaminants for the protection of human health and the environment;
- Prevent further migration of groundwater contamination beyond its current extent.

The major components of the groundwater control remedy selected in the ROD include:

1. The implementation of deed restrictions/notices or institutional controls to prohibit consumption of contaminated groundwater until the cleanup standards have been met;
2. Routine maintenance of the site including fence maintenance, grass mowing, etc.;
3. A contingency plan which includes the installation of a subsurface filter wall or other measures such as limited air sparging, hydraulic gradient control, or source removal to be implemented as necessary;

The major components of the groundwater management of migration remedy selected in the ROD include:

1. Use MNA or natural degradation to achieve groundwater cleanup levels;
2. Groundwater monitoring of existing wells on the Chevron property and adjacent to the site;
3. Five-year site reviews to assess site conditions, groundwater contaminant distributions, and any associated site hazards.
4. The proper closure of the site after performance standards are met.

4.2 Remedy Implementation

The UAO was issued by EPA in July 1997 for Chevron to implement the ROD. Under the UAO, Chevron continues to monitor the groundwater biannually and submit the results to EPA for review. Natural attenuation and monitoring were retained because the "long-term effectiveness of all the alternatives is similar" (TASK/PTI 1994b).

Soil removal, prior to the UAO being issued to Chevron in 1997, took place in 1992. Soil excavation (Figure 3-2) was performed in response to a Removal Action AOC in 1990 between the EPA and Chevron (BCC 1992). This on-site chlordane-based soil removal action took place from December 1991 to September 1992 and resulted in the removal of shallow soils (0- to 1-foot below ground surface) with chlorinated pesticide concentrations in excess of 50 mg/kg and deeper soils (>1-foot deep) with chlorinated pesticide concentrations in excess of 100 mg/kg.

The 1992 removal action resulted in excavation of approximately 50% of the site's surface soil and 17% of the subsurface soils above the water table. All excavated areas were backfilled with clean soil and the areas graded and seeded. The soil excavation activities did not explicitly address effects of soil removal on the nature and extent of groundwater COC concentrations.

Additional soil removal activities were conducted in 1994 at the Armstrong Trailer Park, located adjacent and to the north of the site, in response to Chevron entering into a voluntary AOC with the EPA in 1993 to conduct the RI/FS for the site. Based on soil screening analysis, five areas within the Armstrong Trailer Park (Figure 3-3) were excavated to a depth of 1 foot bgs, or to the Removal Action goal of 4.9 mg/kg chlordane (Task 1994).

The EPA has determined that all soil removal activities were performed according to specifications. FDEP has concurred regarding the off-site soil removal. However, the ROD states "FDEP agrees with the groundwater remedy, but does not agree with no further action for [on-site] soil."

A Remedial Design/Remedial Action (RD/RA) program for MNA was developed (TASK 1997) to satisfy the ROD monitoring requirements. The program consisted of semi-annual water level measurement and groundwater sample collection and analyses (Table

4-1) for chemical compounds of interest and indicator parameters for evaluating natural attenuation.

Since the implementation of the ROD remedial actions in 1997, data analysis reports have been produced, integrating current groundwater monitoring data with all available historical groundwater data to develop a working hypothesis of the fate and transport of chemicals of concern at the site. This data integration and analysis has been compiled in biannual groundwater sampling reports (Geomega, 2000a, 2000b, 2001a, 2001b, 2002a, 2002b) and the following supplemental reports:

- *Groundwater Data Analysis and Supplemental Groundwater Modeling, Chevron Orange Blossom Trail Site, Orlando, Florida* (Exponent 1998);
- *Comprehensive Data Review and Hydrogeochemical Conceptualization of the Chevron Orlando Site* (Geomega 1999);
- *Plume Stability: A Computational Interpretation Using the Center of Mass Technique*" (Geomega 2000c);
- *BHC in Chevron Orlando Groundwater: Evidence for Plume Attenuation and Stability* (Geomega 2000d).

4.3 Groundwater Monitoring/Operation and Maintenance (O&M)

This section provides a brief description of the MNA program, Operation and Maintenance (O&M) requirements, O&M activities to date, problems encountered, and O&M costs. A detailed description of the MNA program and O&M requirements for the Orlando site are presented in the *RD/RA program (*TASK 1997*)*, requiring Chevron to conduct long-term groundwater monitoring and maintain regulatory and institutional controls to limit the future use of the site.

4.3.1 Monitored Natural Attenuation (MNA) Program

The purpose of the groundwater monitoring program is to gain a mechanistic understanding of the processes governing natural attenuation of COCs, and to monitor these processes and associated geochemical parameters, COC concentrations, and COC degradation products over the long term. The intent of the groundwater monitoring program is to confirm the postulation that MNA will provide an effective groundwater remediation strategy for the site. This groundwater remedy utilizes natural biodegradation processes occurring within the surficial aquifer to achieve RAOs established in the ROD. The results from each biannual sampling event are used to assess the efficacy of MNA as an effective groundwater remedy.

The MNA program has consisted of the following activities:

- Water level measurements,
- Field parameters and geochemical measurements (e.g., pH, Eh, dissolved oxygen, conductivity, temperature, total Fe, Fe^{2+}, sulfate, sulfide, alkalinity), and
- Laboratory analysis of COCs, dissolved gases, inorganics, and daughter products.

The field measurements, dissolved gas, and inorganics analyses are used to assess the geochemical conditions of the groundwater at the site. COC analytical results are evaluated against previous sampling rounds to determine their reduction with time relative to ROD clean-up standards. Data analysis was performed to determine the temporal and cumulative efficacy of natural attenuation processes to reduce groundwater contaminant concentrations. Analytical and field results were also used in EPA's MNA score sheet to assess the efficacy of natural attenuation at the site (see Section 6.4.4).

Groundwater monitoring program chemical analyses included:

- purgeable aromatic compounds (EPA Method 8021)
- purgeable halocarbon compounds (EPA Method 8021),
- semi-volatile organic compounds (EPA Method 8270),
- chlorinated pesticides (EPA Method 8081),
- organophosphate pesticides (EPA Method 8141), and
- arsenic, chromium, and lead (EPA Method 6010)

These analytes were measured according to the schedules summarized in Table 4-1.

4.3.2 O&M Requirements

In order to achieve cleanup of the groundwater at the Chevron Orlando site, sampling and analysis of groundwater samples collected from select monitoring wells will be performed to assess the degree of natural attenuation occurring at the site. Operation and maintenance requirements are presented in the RD/RA program (TASK 1997).

The O&M requirements of the approved RD/RA program include:

- Deed restrictions/notices or institutional controls to prohibit consumption of contaminated groundwater until the cleanup standards have been met;
- Routine maintenance of the site including fence maintenance, grass mowing, etc.
- Groundwater monitoring to document the expected reduction in contaminant concentrations and to evaluate potential contaminant migration;
- Analytical results showing evidence of natural degredation and/or attenuation of groundwater contaminants;

- A contingency plan which includes the installation of a subsurface filter wall. Other measures such as limited air sparging, hydraulic gradient control, or source removal, would be implemented as necessary. The contingency would be invoked if one of the following conditions is met:
  - Contaminant concentrations do not decrease by 10 to 15% within one year.
  - Contaminant concentrations in subsequent years do not decrease as expected.
  - Organic contaminants are detected in sentinel monitoring wells MW-11 or MW-15.

The MNA program has included 14 locations, which are cross-gradient, downgradient, and upgradient of the former contaminant source areas located on the Chevron property. Monitoring has been conducted biannually since adoption of the ROD, and continues today.

4.3.3 O&M Activities to Date

Biannual water level monitoring, field parameters and geochemical measurements, COC and MNA sampling, and data evaluation has been conducted according to the scope of work adopted in TASK 1997 and updated in Geomega 2001. The most recent monitoring event occurred in September 2002. Routine monthly/bimonthly maintenance activities include mowing grass, removing weeds and vegetation along the fence-line, trimming trees, maintaining chain-link fence integrity, collecting garbage and debris, and painting the block wall and monitor well covers.

4.3.4 Problems Encountered

Since the MNA sampling program was initiated in October 1997, the program has been implemented and no monitoring system maintenance or troubleshooting activities have been required.

Detections of chromium in groundwater samples from certain wells during the 1999 sampling events encouraged the modification of the analytical components to include additional metals to investigate the possibility of deterioration of the stainless steel well casings. However, after monitoring metal components in the groundwater system, it was concluded that high chromium detections in offsite wells MW-2S, MW-6S, and MW-15 are originating from a source not related to the site or monitoring wells (Geomega 2001b).

Methyl tertiary-butyl ether (MTBE) from an upgradient source crossed the site, detected in MW-10 and MW-16 between 1995 and 2000.

Off-site monitoring well MW-13 was vandalized in 1997 leaving the well unsuitable for water level and water chemistry measurements.

4.3.5 Annual System Operations/O&M Costs

Chevron is conducting long-term monitoring and maintenance activities according to the RD/RA program (TASK 1997) developed for the site and approved by EPA.

5 Progress Since the Last Five-Year Review

This is the first five-year review for the site.

6 Five-Year Review Process

6.1 Administrative Components

The EPA notified CCC of the need for a five-year review in the fall of 2001. CCC agreed to prepare the technical and community involvement portions of the report. The review team consisted of EPA (the Remedial Project Manager) and CCC (with its contractors). EPA developed a schedule which anticipated EPA approving the five-year review by December 2002.

6.2 Community Involvement

The Remedial Project Manager (RPM) initiated the five-year review for the Orlando site in fall of 2002. Upon completion of the review, a notice will be placed in the local newspaper notifying the public that the review has been conducted, the purpose of the review, and the contact information for EPA. Additionally, a final copy of the review report will be placed in the information repository for the Site which is located at the Orlando Public Library, Edgewater Branch, 6250 Edgewater Drive, Orlando, Florida 32810.

6.3 Document Review

This five-year review consisted of a review of relevant documents including O&M records and monitoring data (See Attachment 1). Applicable groundwater cleanup standards, as listed in the 1996 ROD, were reviewed (See Attachment 2).

6.4 Data Review

6.4.1 Soil Remediation Activities

Soil remediation activities at the Chevron Orlando site began in 1992, prior to issuance of the final ROD in 1996 and the EPA's UAO in 1997. Remedial activities for this medium were performed in two separate events: (1) on-site soil removal action between December 1991 and September 1992 (BCC 1992); and (2) off-site soil removal action between March and April 1994 (Task 1994). All soil remediation and site restoration activities (i.e., demolishing and removing all buildings and structures) were completed by 1995. However, the soil remedial activities did not address effects of soil removal on the nature and extent of groundwater COC concentrations. The data reviewed in this report include

a comparison of initial and final COC levels in the surface and subsurface soils at the Orlando site. Soil analytical data are presented in Table 6-1. Based on the soil data, the intent of the on-site and off-site soil remediation activities have been conducted and fulfilled in accordance with EPA specifications.

In May of 1990, Chevron signed an AOC with the EPA, resulting in the 1992 on-site excavation and off-site disposal of 17,780 tons of pesticide-contaminated soil, the excavation and off-site treatment of 4,900 tons of petroleum-contaminated soil, the extraction of 90 to 100 gallons of a free-phase liquid from subsurface soils, and the treatment and on-site discharge of 126,000 gallons of stormwater and groundwater recovered during the soil excavation. All excavated areas were backfilled with clean soil.

In January 1993, Chevron voluntarily entered into an AOC with the EPA to further evaluate on-site groundwater contamination and assess the potential for off-site soil contamination by conducting a RI/FS pursuant to the EPA's SACM. In response to laboratory analytical results of the Phase II RI field sampling and analysis program, Chevron performed an additional Removal Action in March 1994, resulting in the excavation and off-site disposal of approximately 230 tons of pesticide contaminated soil from the adjacent Armstrong Trailer Park. All excavated areas were backfilled with clean soil.

6.4.2 Post-Removal Soil Conditions

The extent of on-site soil excavation was defined by soil samples with concentrations of COCs below performance standards (Figures 6-1 through 6-3; Table 6-2). Based on these data, the intent of the on-site surface soil remediation has been completed. Similarly, off-site soil excavation was defined with residual concentrations below risk-based performance standards (Figure 6-4, Table 6-3, Geomega 2000d).

As a result of the soil removal efforts, EPA has determined that "No Further Action" is necessary for soil at the site and risk levels associated with soils are considered to be "protective of human health and the environment" as stated in the 1996 ROD. However, FDEP suggested that a more stringent risk level may be necessary to achieve deletion of the site from the NPL.

6.4.3 Groundwater Monitoring

Chevron has been conducting a groundwater monitoring program since 1997 to determine the efficacy of MNA as the site groundwater remedy. The MNA assessment also utilizes groundwater data from as early as 1991. The primary objectives of this program are to gain a mechanistic understanding of the processes governing natural attenuation of COCs in a natural environment, and to monitor these processes and associated geochemical parameters, COCs, and COC degradation products over the long term. The results of the latest monitoring event in September 2002 are included in Appendices A through D.

According to the U.S. EPA (1997), natural attenuation processes include physical, chemical, or biological processes that, under favorable conditions, act without human intervention to reduce the mass, toxicity, mobility, volume, or concentration of contaminants in soil or groundwater. Natural attenuation processes at the site have been evaluated through the use of four indicators recommended in the *Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites* (Office of Solid Waste and Emergency Response (OSWER) Directive No. 9200.4-17P, April 21, 1999) for evaluating the performance of an MNA remedy. The four indicators are:

- Demonstrate that natural attenuation is occurring according to expectations;
- Verify that the plume is not expanding either downgradient, laterally or vertically;
- Identify any potentially toxic or mobile transformation products; and
- Detect changes in the environmental conditions that may reduce the efficacy of the natural attenuation processes.

Groundwater monitoring has been conducted at the site since October 1991 (Figure 6-5). Groundwater data for COCs have generally exhibited temporal variability since 1991 (Figures 6-6) and demonstrated decreasing or stabilizing COC levels from peak concentrations. The temporal trends indicate that the contaminant plume has apparently reached equilibrium and has ceased to migrate beyond its current position. These conclusions have all been strengthened by recent groundwater analytical data and plume attenuation and stability calculations, indicating that the COCs are naturally attenuating throughout the site (Geomega, 2000d, 2001b, 2002b).

Historically, organic COCs have been detected in groundwater at most on-site wells and three off-site locations (MW-1S and -1D, MW-2S and -2D, and MW-5D). There were also detections in MW-12, MW-15 and MW-6D during one semi-annual sampling event apiece, although these detections were attributed to analytical uncertainty because COCs have not reappeared subsequently (Geomega 2000b, 2002a). Inorganic COCs (i.e., Pb and Cr) have been detected in all on- and off-site wells.

The lateral extent of the organic COCs is constrained in the downgradient directions by MW-6 to the north, MW-11 and MW-15 to the northeast, and MW-12 to the east. Vertically, pumping test and analytical results from MW-14, a Floridan aquifer monitor well located in the center of on-site groundwater COC concentrations (Figure 6-5), show that COCs are confined to the surficial aquifer (TASK PIT 1994).

In order to establish MNA as the groundwater remedy for the site, the ROD required Chevron to demonstrate that groundwater COC concentrations would naturally decrease by at least 10-15% from April 1995 to May 1996. Comparing average analytical results between April 1995 to February 1996 (the relevant compliance interval) across the monitoring well network shows that COC concentrations declined by up to 49% during this time period (Appendix B). Xylene appears to increase by 5%, however, this interpretation appears anomalous due largely to values observed at MW-8 in February

1996. The calculation of changes in COC concentrations between April 1995 and February 1996 in this manner (Appendix B) does not account for groundwater variability and was conducted to put COC concentrations in the ROD context

An analysis of water level elevation vs. COC concentration shows that short-term temporal variability in COC concentrations is associated with changes in water level elevation (Geomega 1999). A correlation was established between average total BHC concentrations and depth to water, suggesting that the rise and fall observed in site water levels controls groundwater BHC concentrations. As additional sampling events have consolidated the groundwater system characterization, a statistically significant correlation ($p>0.99$) between average total BHC concentrations and depth to water level was identified (Figure 6-7), confirming that the rise and fall observed in site water levels controls groundwater BHC concentrations. The correlation with depth to water is less significant for BTEX compounds because these compounds do not sorb strongly to soils as evidenced by average concentrations of these COCs clearly showing a consistent degradation over time (Figure 6-8).

Groundwater monitoring results indicate that a decrease in the water level between sampling events generally displays increased COC concentrations over the same time period (Figure 6-7). This strong correlation relationship between COC concentrations (particular BHC-isomers) and the groundwater elevation suggests an alternative interpretation of COC diminution is more appropriate than comparing COC analytical results from consecutive sampling events. Comparing analytical results at similar water levels demonstrates a consistent decrease in COC concentrations (Figures 6-9 through 6-11) between the initial post-removal measurement (1993) and the most recent consistent water table measurements (October 1997). Furthermore, the rate of decrease for the total BHC-isomers has been found to be slower than the rate of decrease for benzene, toluene, ethylbenzene and xylene (BTEX) compounds. Historical data for all wells are presented in Appendix B. Appendix C contains figures of water level versus COC concentration for each individual well from 1991 to the present.

These observed trends in site monitor wells are good indicators that COCs remain near their original source areas. Additionally, the available groundwater data for the site suggest that there is "moderate evidence" for natural attenuation when incorporated into a modified form of the Natural Attenuation Score Sheets developed by the EPA for chlorinated solvents (Table 6-4). This monitoring record indicates that the groundwater COC attenuation process conceptualized in the ROD is proceeding as expected.

Historical and recent groundwater data support evidence that natural attenuation processes at the site are continuing to provide adequate protection of human health and the environment as specified in the ROD. The groundwater data have been synthesized into the site interpretation and will be utilized in the ongoing monitoring and assessment of the efficacy of MNA for the site groundwater remedy.

Over the past eight years since on-site soil removal activities were completed in 1994, there has continually been clear evidence of BTEX solute reduction with decreased

concentrations in off-site wells (e.g., MW-2D; Figure 6-12) and in wells located adjacent to the soil remedial activities (e.g., MW-3S, MW-3D and MW-8S). In other on-site wells (e.g. MW-4D), solute behavior is more complex with oscillating concentrations superimposed on an overall declination in BTEX concentrations (Figure 6-13). Examination of the BHC isomers shows similar decreasing concentration patterns in some cases (e.g., MW-2D; Figure 6-12), and oscillating concentrations in other wells (e.g., MW-4D; Figure 6-13) distal to the soil removal action.

Based on the spatial extent of groundwater COCs, the perimeter of the affected groundwater region has not varied substantially since sampling of the current monitoring well network commenced in September 1993. Center of mass calculations for the groundwater COCs (Figure 6-14) show that the β-BHC center of mass is consistently located between monitoring well locations MW-4 and MW-10 and the xylene center of mass remains located between MW-4 and MW-1. Additionally, cross-sections from southwest to northeast across the site (Figures 6-15 and 6-16) show that COC concentrations in on-site monitoring wells fluctuate temporally and display peak concentrations consistently located at MW-4. Distal wells upgradient (MW-8, b-BHC) and downgradient (MW-11 and MW-15, a-BHC) remain stable with COC concentrations below method detection limits for the last 3 to 4 consecutive sampling events. The spatial stability of groundwater COCs has been further supported by recent monitoring well data indicating that downgradient wells are uninfluenced by site conditions.

Plume attenuation and stability calculations indicate that there has been ongoing COC mass reduction and the plume center of mass has remained at steady state over the last 9 years (Figure 6-14; Geomega, 2000, 2001, 2002). More than 97% of the total BHC mass in soils and groundwater has been removed from the site by excavation, extraction, and natural attenuation as the total mass of dissolved BHCs in groundwater alone decreased from 1968 grams in 1991 to 649 grams in 2002 (Figure 6-17).

Currently, other groundwater COC concentrations (Section 6.4.4) have remained below the cleanup standards with the exception of chromium where sporadic off-site exceedances are not attributed to the site (Geomega 2001b).

Groundwater geochemical conditions and contaminant trends are discussed in detail in the following sections.

6.4.4 Groundwater Remediation

The RI/FS documents concluded that concentrations of groundwater contaminants had generally decreased with time and the contaminant plume had apparently reached equilibrium, ceasing to migrate beyond its current position (Task-PTI 1994). In May 1996, the ROD issued by the EPA concluded that potentially unacceptable risk is associated with this site due to potential future consumption of groundwater containing contaminants above either federal or State of Florida groundwater standards. BHC isomers, benzene, ethylbenzene, and xylene in on-site groundwater were the most important contributors to estimated risks; therefore, these contaminants have been the focus of groundwater remediation since 1997.

Currently, ingestion of groundwater on-site or at one monitoring well location adjacent to the site (MW-1) would pose an unacceptable risk. However, no drinking water wells are currently located within the area of the groundwater plume, and any potential consumption of groundwater on-site has been obviated via deed restrictions (EPA 1996). The groundwater in the surficial aquifer is not currently consumed on-site and potential threats of releases of hazardous substances from this site have been addressed through the implementation of the response action selected in the ROD to prevent "an imminent and substantial endangerment to public health, welfare, or the environment". Therefore, the groundwater currently poses no immediate risk to human health.

The following cleanup goals for groundwater were identified in the 1996 ROD:

COC	Performance Standard µg/l
α-BHC	0.05
β-BHC	0.1
γ-BHC	0.2
4,4'-DDD[1]	0.1
Chlordane	2
Benzene	1
Ethylbenzene	30
Xylene	20
Arsenic	50
Chromium	100
Lead	15
Napthalenes	100

[1] 1,1-dichloro-2,2-bis(p-chlorophenyl) ethane

To verify that long-term cleanup goals are being met, groundwater chemistry has been analyzed to investigate the potential for, and evidence of degradation of COCs, including chlorinated pesticides (α-, β-, and γ-BHC, chlordane, and DDD), purgeable aromatic compounds (benzene, ethylbenzene, and xylene), metals (arsenic, chromium, and lead), and base-neutral organics (napthalene).

6.4.4.1 Evidence of COC Natural Attenuation

The available groundwater data suggest that there is "moderate evidence" for natural attenuation when incorporated into a modified form of the Natural Attenuation Score Sheets developed by the EPA for chlorinated solvents (Table 6-4). These scoresheets represent a useful template for application to other situations where MNA for other chlorinated compounds must be evaluated (Davis et al. 1999). In addition, pesticide daughter products have been detected in site monitoring wells, providing further evidence of natural attenuation (Geomega 2000).

Trends in groundwater COC's in site monitor wells are good indicators of contaminants remaining in the groundwater near to the original source areas. This monitoring record indicates that the groundwater COC attenuation process conceptualized in the ROD is proceeding essentially as expected. Historical data for all wells are presented in Appendix B.

The following sections describe the groundwater geochemical conditions, contaminant trends, biodegradation pathways, and results of the EPA's MNA scoring system.

6.4.4.2 Groundwater Geochemistry

Site and local groundwater has remained slightly acidic with a pH between 4.0 and 7.0, with the lowest pH occurring in off-site monitor wells. Groundwater generally has low concentrations of dissolved solids (SC <500 μmhos/cm^2), with shallow wells having a higher specific conductivity than the deep monitoring wells. On-site monitoring wells have low dissolved oxygen concentrations (<1 mg/L) along with reducing redox potentials (Eh<0), indicating environmental conditions conducive to the reductive dechlorination of the BHC compounds. Distal off-site wells (MW-11, MW-12, MW-15) also have relatively low dissolved oxygen concentrations but, in contrast, have oxidizing redox potentials (Eh>150). Dissolved iron concentrations are consistent with the measured Eh values and correlate well with on-site wells having higher concentrations of reduced ferrous iron (Fe^{+2}) than the distal off-site wells. There is also abundant (up to 6.6 mg/l) sulfide in solution confirming the reducing nature of the groundwater. Reducing conditions appear to be stronger in the deeper monitoring wells than in the collocated shallow wells.

6.4.4.3 Disposition of Groundwater COC Plume

The location and extent of the groundwater plume was determined for key COC's including α-BHC, β-BHC, γ-BHC, ethylbenzene and xylene. Center of mass calculations for BHC-isomers and BTEX components demonstrate the spatial stability of the groundwater COC's since soil removal activities were completed in 1994. Calculations have consistently located the COC plume center of mass in the vicinity of monitoring well MW-4 (Figure 6-14), indicating that the plume is not migrating downgradient towards the perimeter wells or other off-site areas. The groundwater monitoring record shows that the plume remains confined almost entirely within the site boundary despite nearly 40 years of existence. Hence, it is apparent that there are attenuation factors (hydraulic, geochemical, biochemical, etc.) that are acting to minimize the effect of historically uncontrolled releases, and have therefore curtailed the COC distribution in the environment.

Based on the spatial extent of groundwater COCs, the perimeter of the affected groundwater region has not varied substantially since sampling of the current monitoring well network commenced in September 1993. Indeed, even in MW-5D, there have been low concentrations of BHC-isomers detected since 1995 (Figure 6-18). To further evaluate the potential flux of COCs to the downgradient margin, migration was

investigated by determining the spatial disposition of the center of COC mass within the body of the plume.

The proclivity for COC plume migration was determined by calculating the center of mass for groundwater COCs based on the available monitoring well data collected since September 1993. Groundwater data for each individual sampling event was kriged using the Environmental Visualization System (EVS; C-Tech 1999) in order to derive estimates for COC concentrations throughout the entire groundwater perimeter. The location of the center of mass was then calculated following the method of Mizrahi and Sullivan, 1986.

The calculations show that the center of mass for β-BHC is consistently located between monitoring well locations MW-4 and MW-10 (Figure 6-14). The precise location of the center of mass varies; however, there is no trend to the locus, hence it appears that the plume is oscillating backwards and forwards rather than migrating downgradient towards the perimeter wells. For xylene, the center of mass is slightly offsite (Figure 6-19), however, similar to β-BHC it remains consistent over time, demonstrating no net migration of xylene further downgradient from the source area.

6.4.4.4 Water Level Elevation vs. COC Concentration

Aquifer water elevations have been measured during each groundwater sampling event. These data have been used to generate water level contour maps and determine the local groundwater hydraulic gradient. An analysis of water level elevation vs. COC concentration showed that short-term temporal variability in COC concentrations is associated with changes in water level elevation (Geomega, 1999). A correlation was established between average total BHC concentrations and depth to water, suggesting that the rise and fall observed in site water levels controls groundwater BHC concentrations. As additional sampling events have consolidated the groundwater system characterization, a statistically significant correlation ($p>0.99$) between average total BHC concentrations and depth to water level was identified (Figure 6-7), confirming that the rise and fall observed in site water levels controls groundwater BHC concentrations. Other temporally related changes (e.g., potential lateral flow, natural attenuation, etc.) appear to be less important.

The correlation with depth to water is less significant for BTEX compounds because these compounds do not sorb strongly to soils as evidenced by average concentrations of these COCs clearly showing a consistent degradation over time (Figure 6-8). Therefore, BTEX groundwater concentrations are not as dependent on sorption/desorption mechanisms as the BHC isomers. This realization implies that COC concentrations, in particular the BHC-isomers, must be examined in conjunction with water level elevations in order to achieve an accurate interpretation. This theory has been strengthened by recent monitoring results which indicate that a decreased in the water level between sampling events generally displays increased COC concentrations over the same time period (Figure 6-7). Appendix C contains figures of water level versus COC concentration for each individual well from 1991 to the present. Hence, an increase in groundwater COC concentrations between consecutive sampling events is not necessarily indicative of

plume migration, nor is a decrease between consecutive sampling events necessarily evidence of natural attenuation.

6.4.4.5 Degradation and Attenuation Pathways

Natural attenuation processes that regulate solute transport in groundwater include degradation (both biotic and abiotic), advection, dispersion, dilution, sorption, volatilization, chemical reactions and geochemical transformations. Indicator parameters of the degredation and attenuation processes occurring at the Orlando site are evidenced by geochemical conditions and biodegradation pathways observed at the site. Different compounds degrade by different mechanisms which are dependent upon the unique environmental setting of the site. To verify that long-term cleanup goals are being met at the Orlando site, groundwater chemistry has been analyzed to investigate the potential for, and evidence of, degradation of COCs, including chlorinated pesticides (α-, β-, and γ-BHC), purgeable aromatic compounds (benzene, toluene, ethylbenzene and xylenes), and metals (chromium and lead).

Abiotic chemical reactions, such as hydrolysis, serve as natural attenuation mechanisms to reduce solute mass. Biodegradation is the transformation and detoxification of organic chemicals to smaller molecules through oxidation and reduction reactions induced by metabolic activity of microorganisms. Advection is the average movement of groundwater in the direction of flow that functions as a transport mechanism to spread the centroid of the mass of the solute plume in a downgradient direction, causing the solute plume to migrate temporally. Dispersion includes hydrodynamic dispersion, or dispersivity, and diffusion transport mechanisms that act to spread the solute mass downgradient in the aquifer. Dilution is the reduction of the concentration and potency of chemicals as a result of continual recharge of groundwater in an aquifer with a finite amount of solute mass.

At the Orlando site, sorption is a significant attenuation mechanism for many of the COCs in the groundwater. Contaminant migration through the subsurface will be retarded as a result of their low water solubility and their affinity for partitioning from water to soil particles in the site's sluggish hydrologic environment of the groundwater system. COC degradation and attenuation processes in subsurface conditions are complex due to small-scale geologic, hydrologic, biological and chemical heterogeneities. Therefore, knowledge of the geochemistry and degredation pathways is essential in the recognition of natural attenuation indicator parameters at the Orlando site.

6.4.4.6 Biodegradation Pathways

The Orlando site groundwater COCs fall into three general classes of chemical compounds:

- chlorinated organic compounds (α-, β-, and γ-BHC, α- and γ-Chlordane, and DDD),
- non-chlorinated aromatic compounds (benzene, toluene, ethylbenzene and xylenes), and

- metals (arsenic, chromium and lead)

Each class of compounds degrades by different mechanisms. Although chlorinated solvents have been studied more extensively, similar pathways generate residues from organochlorine pesticides (e.g., α-, β-, and γ-BHC, and DDT). The major pathway for degradation of chlorinated organic compounds is dechlorination. For example, anaerobic biodegradation of DDT (Aislabie and Lloyd-Jones 1995, McRae 1989) proceeds through the intermediates DDD, bis(p-chlorophenyl)acetic acid (DDA), and p-p-diclorobenzophenone (DBP) by reductive dechlorination (Figure 6-20). Since these intermediates have no other natural or anthropogenic source, their presence in the Orlando site groundwater is likely due to DDT biodegradation. DDT biodegradation can occur either aerobically or anaerobically, with each pathway producing different daughter products.

The BHC isomers degrade initially through dehydrohalogenation (Figure 6-21). α- and β-pentachlorocyclohexene (PCCH) are both potential degradation intermediates of α-BHC, while γ-BHC degrades only through the γ-PCCH intermediate (Adhya et al. 1996, Bachmann et al. 1988, Deo et al. 1994, Jagnow et al. 1977, Huhnerfuss et al. 1992). The only β-BHC daughter product identified in the literature was chlorobenzene (Van Eekert et al. 1998), but based on analogous reaction stereochemistry it is reasonable to assume that β-BHC degrades through the β-PCCH intermediate. Dehydrohalogenation of BHC compounds occurs mainly under reducing conditions to form chlorobenzene compounds, but aerobic degradation to chlorophenols has also been reported (Deo et al. 1994, Huhnerfuss et al. 1992).

Xylenes can degrade by several mechanisms under aerobic or anaerobic conditions (Beller et al. 1995; Kelly et al. 1997). Three of the most common daughter products are catechol, cresol, and toluic acid (Figure 6-22).

6.4.4.7 Geochemical Conditions

The characterization of COC degradation and the inter-related redox processes in the subsurface are complex due to small-scale geologic, hydrologic, biological and chemical heterogeneities. Therefore, it is important to measure as many indicator parameters as possible to obtain a data set that will help in determining if natural attenuation is occurring in the Orlando site shallow groundwater.

Dissolved hydrogen (H_2) concentrations are useful as an indicator of microbially mediated redox processes because fermentative microbial respiration continuously produces H_2 during anoxic decomposition of organic compounds (Chapelle et al. 1996). Hydrogen is a source of electrons for reductive dechlorination of anthropogenic compounds; hence its detection in groundwater provides evidence for conditions conducive to this mechanism. Other reduced compounds (e.g., ferrous iron, hydrogen sulfide, and methane) also provide a potential electron source, i.e.,

$$Fe^{+2} + 3H_2O \Rightarrow Fe(OH)_{3(s)} + 3H^+ + e^- \qquad (1)$$

$$H_2S_{(g)} + 4H_2O \Leftrightarrow SO_4^{-2} + 10H^+ + 8e^- \quad (2)$$

$$CH_4 + 2H_2O \Leftrightarrow CO_2 + 8H^+ + 8e^- \quad (3)$$

The ambient hydrogen concentration is dependent upon the dominant electron acceptor process in the groundwater system. Typically, Fe (III) reducers operate at H_2 concentrations of 0.2–0.8 nmol/L, sulfate reducers at 1-4 nmol/L, and methanogens at 5-15 nmol/L (Chapelle et al. 1996).

Other dissolved gases may be helpful in determining the predominant redox processes. For example, ethane and ethene can be reduced to methane, and nitrate can be reduced to nitrogen gas according to:

$$2CH_{4(g)} \Leftrightarrow C_2H_6 + 2H^+ + 2e^- \quad (4)$$

$$2CH_{4(g)} \Leftrightarrow C_2H_4 + 4H^+ + 4e^- \quad (5)$$

$$N_{2(g)} + 6H_2O \Leftrightarrow 2NO_3^- + 12H^+ + 2e^- \quad (6)$$

The presence of these gases is indicative of a reducing environment in the groundwater and provides supporting evidence for an environment conducive to reductive dechlorination.

Reductive dechlorination usually occurs under anoxic conditions (i.e., oxygen <0.5 mg/L). Nitrate or sulfate may act as electron acceptors and interfere with the reductive pathway if concentrations are high enough. Hence, the valence state of multi-valence elements such as nitrate and sulfate may provide insight to geochemical controls that enhance or prevent natural attenuation reactions. The presence and/or absence of combinations of multi-valent species have been shown to act as indicators to evolving redox conditions in groundwaters (Baedecker et al. 1979, Davis et al. 1994). For example, the presence of both ferrous iron and sulfate is indicative of anoxic, mildly reducing conditions, while sulfide and methane are representative of more strongly reducing conditions.

Other geochemical conditions that are important indicators of the potential for the system to reductively dechlorinate compounds include redox potential (Eh) of <50 mV at a pH of 5 to 9, and temperature >20 °C (1997). Total organic carbon >20 mg/L, BTEX >0.1 mg/L, and volatile fatty acids >0.1 mg/L indicate that there is adequate organic material available to provide a primary metabolic energy source for the microbial consortium that facilitates reductive reactions. In addition, the presence of chloride above twice the background chloride level is also an indication of reductive dechlorination.

6.4.4.8 COC Cosolvent Transport

Cosolvency results when sufficiently large quantities of an organic solvent in groundwater increase the solubility and desorption of solute organic chemicals. For example, in a solution that contains water and a solvent, such as xylene, the solubility of an organic chemical, such as DDT, can be increased due to the combination of water and solvent in the cavity that results in shared hydration shells. Such a condition exists when the solvent is present at greater than 10-20% by volume (LaGrega et al., 1994; Schwarzenback et al., 1993). As the quantity of the organic chemicals decreases (less than 10^{-3} volume fraction), there is extremely low probability of the hydration shells overlapping, and thus little affect on the solubility (Schwarzenbach et al., 1993).

Conversely, solute sorption to soils decreases in the presence of large quantities of solvent due to several factors, including competition for sorption sites, removal of organic matter (the primary sites for sorption), and physical alteration of soil, thereby changing flow patterns and bypassing sorption sites (LaGrega et al., 1994). The volume percent of a chemical is calculated by dividing the chemical concentration in groundwater by the specific gravity of that chemical. The volume percent of organic chemicals at the Orlando site ranges from 0.0000003% to 0.00068%, which is far less than the 10-20% required for cosolvency (Schwarzenbach et al. 1993). Therefore in Orlando groundwater, the potential for co-solvency is negligible, due to the relatively low concentrations of the COC cosolvents.

6.5 Site Inspection

Inspections at the site within the last nine months were conducted in April and September 2002 by TASK Environmental. Each of the inspections was conducted as part of routine O&M activities and included measuring water levels, monitoring well sampling, mowing, and fence maintenance.

6.5.1 Access and Institutional Controls

The site is accessible by vehicle or pedestrian through a gate located on its east side off Orange Blossom Trail. The gate is locked at all times. Current access and institutional controls are effective in maintaining site integrity and preventing vandalism. No activities were observed during any of the recent site visits. There was no evidence of well tampering, following the vandalism of MW-13 in 1997.

6.5.2 General Site Conditions

Equipment and materials located at the site consist of an aluminum utility shed, carbon treatment drums, and two high density polyethylene (HDPE) containers used to collect purge water for treatment. No other equipment, documentation, supplies, permits, records, plans, or other information are located on-site.

6.5.3 *Groundwater Remedies*

On- and off-site monitoring wells were located during the site inspection, their water levels were recorded, and the wells sampled per the MNA analytical plan (Table 4-1). Each well is clearly marked and easily accessible.

6.5.4 *Overall Observations*

Based on site inspections and O&M activities conducted in 2002, the monitoring well network at the Orlando site appears to be operating as intended.

7 Technical Assessment

7.1 Question A: Is the remedy functioning as intended by the decision documents?

Review of the historic documentation, applicable or relevant and appropriate requirements (ARARs), risk assumptions, and the monitoring results indicates that the remedy for groundwater is functioning as intended by the ROD. Biannual monitoring confirms that the selected remedy (MNA) continued to successfully manage residual risk associated with groundwater COCs.

Based on historic trends and the identification of COC daughter products in site groundwater, it is apparent that COC attenuation is occurring. The mass of COCs in groundwater is decreasing at a rate of ~10% per annum. Natural attenuation continues to be a viable alternative to reach remedial protectiveness goals because COCs are not migrating to off-site locations. The MNA sampling program should be optimized based on the historic trends observed.

Institutional controls that are in place include a fence around the perimeter of the site and a deed restriction barring use of groundwater on site. No activities have been observed that would have violated the institutional controls. The fence around the site is intact and in good repair.

7.2 Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy still valid?

The 5-year review includes a review of the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives that were incorporated into the ROD. The primary objective of this review is to determine whether these assumptions, data, and objectives are still protective of human health and the environment. For example, a change in land use or new toxicological findings could theoretically render the selected remedy no longer sufficiently protective.

An institutional control prohibiting onsite residential land use on the site was implemented since completion of the ROD. Since residential land use is no longer considered a possibility, and the baseline RA considered residential uses (e.g. drinking

water uses), the exposure assumptions and remedial action objectives used in the ROD are still protective of potential land uses at the site.

Changes in the toxicity assumptions have occurred for two COCs, chlordane and lindane. For chlordane, both the oral Reference Dose (RfD) and oral slope factor have been revised since the data of the ROD. The RFD of 6E-05 mg/kg-day has been replaced by an RFD of 5E-04 mg/kg-day, and the oral slope factor has changed from 1.3E+00 $(mg/kg\text{-}day)^{-1}$ to 3.5E-01 $(mg/kg\text{-}day)^{-1}$. The new criteria are less restrictive than the old ones; the assumptions used in the ROD are therefore still protective.

The carcinogen classification for lindane has been revised. Lindane was previously classified as a probable human carcinogen. The EPA concluded in a recent risk assessment (http://www.epa.gov/pesticides/lindane.htm) that there is insufficient evidence to determine whether lindane would cause cancer in humans. The cancer classification "suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenicity potential" means that EPA does not have to quantify cancer risks posed by the pesticide in a risk assessment. Since lindane was evaluated as a carcinogen in the risk assessment used as the basis for the ROD, the assumptions in the ROD are still protective.

Changes in Standards and TBCs

Compliance standards for ethylbenzene and xylene were modified from their ROD cleanup standards to their MCL's (700 µg/l and 10,000 µg/l, respectively) in 2000. Otherwise, there have been no changes in standards used to generate cleanup levels in the ROD.

Most of the standards generated in the ROD were based on the future residential land use scenario in the BRA. Some groundwater standards were selected based on Federal MCLs and are the same today as they were at the time of the ROD generation.

Federal ARARS for groundwater that still must be met at this time and that have been evaluated include National Drinking Water Regulations (40 CFR Parts 131-144). State ARARs that still need to be met at this time and that have been evaluated include the Florida MCLs defined in FAC 62-550. To-Be-Considered (TBCs) Documents for the site include the USEPA's Drinking Water Regulations and Health Advisories (1993).

Changes in Exposure Pathways and Risk Assessment Methodologies

The BRA reviewed several potential exposure scenarios for the site: current industrial or site visitor scenarios, and future hypothetical residential scenario. The BRA concluded that under current scenarios, the exposure pathway that exceeded the EPA's acceptable cancer risk (10^{-6}) was ingestion of groundwater for the future resident scenario. Hence, based on the results of the BRA, the medium of concern for remedial action was groundwater.

There have been no changes in the exposure pathways conservatively assumed in the BRA.

Changes in Toxicity and Other Contaminant Characteristics

There have been no changes in the toxicity factors for the COCs that were used in the BRA that would call into question the selected remedies.

Expected Progress Towards Meeting RAOs

The remedy is progressing as expected.

7.3 Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has been presented that could call into question the protectiveness of the remedy.

7.4 Technical Assessment Summary

According to the data reviewed, the remedy is functioning as intended by the ROD. Except for revision of the ethylbenzene and xylene cleanup standards to match Federal MCLs, there have been no changes in standards, exposure pathways, risk assessment methodology, or the toxicity factors for COCs that were used in the BRA, and there is no other miscellaneous information that calls into question the protectiveness of the remedy.

8 Issues

The efficacy of the monitored natural attenuation remedy requires future verification until ROD compliance has been attained.

Meeting strict numeric groundwater standards at this site by any remedial method is complicated because 1) all residual soil sources cannot be identified due to constraints imposed by analytical method detection limits (MDLs; e.g., α-BHC in Figure 8-1); 2) the groundwater cleanup goals are also at MDLs, resulting in poor discriminatory ability between detection limits and low-level occurrences; and 3) BHC isomers with ROD cleanup standards (i.e., α-, β-, and γ-BHC) may isomerize among one another, and to and from an unregulated isomer (δ-BHC).

9 Recommendations and Follow-up Actions

In lieu of numerical standards, a continued monitoring approach is proposed for the next five-year period to ensure that groundwater COCs do not threaten Lake Fairview or result in unacceptable risk to human health and the environment under future land use scenarios.

9.1 Monitoring On-Site Wells

Total BHC mass is an appropriate metric for evaluating natural attenuation (rather than individual isomers) due to isomerization. This method would be applied by summing the groundwater BHC concentrations (including δ-BHC). The current on-site network of monitoring wells will be analyzed in the Spring and Fall of the second and fourth years of the next five-year period to quantify BHC mass reduction. The monitoring well samples will be analyzed for chlorinated pesticides by EPA Method 8081. In addition, samples from the MW-4 cluster will be analyzed for purgeable aromatic compounds by EPA Method 8021 in Spring and Fall of the fourth year.

The analytical list for on-site monitoring wells remain the same as the current analytical plan (Table 9-1).

9.2 Monitoring Off-Site Wells

Monitor well cluster MW-2 and wells MW-12 and MW-15 will be monitored for BHC compounds (EPA Method 8081) in the Spring and Fall of the second and fourth years of the next five-year period. In the event that there is a COC detection in MW-15 (the sentinel well closest to site), MW-11, MW-12, and MW-15 wells will be sampled again within three months. If these confirmation analyses are below detection limits, annual sampling will resume. The samples form MW-2D collected in the fourth year will be analyzed for purgeable aromatic compounds by EPA Method 8021.

MW-1S and MW-1D will be sampled annually in the Spring and Fall for BHCs (MW-1S and MW-1D) and benzene (MW-1D).

10 Protectiveness Statement

The remedy is expected to be protective of human health and the environment upon attainment of groundwater cleanup goals, through natural attenuation. In the interim, exposure pathways that could result in unacceptable risks are being controlled and institutional controls are preventing exposure to, or the ingestion of, groundwater. All threats at the site have been addressed through excavation of soil, installation of fencing, and implementation of institutional controls. Long-term protectiveness of the remedial action will be verified by sampling of on- and off-site monitoring wells according to the recommended sampling and analytical plan (Section 9). Current monitoring data indicate that the remedy is protective of human health and the environment.

11 Next Review

The next five-year review for the Chevron Orlando site is required by December 2007, five years from the date of this review.

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Table 2-1. Chronology of Chevron Orlando site events

Event	Date
Site Construction by Chevron Chemical Company (CCC)	1950
CCC removed chemical inventory, drained equipment lines, and backfilled rinsate ponds with soil.	1976
Mr. Uttal purchased the site from CCC and began operation of Central Florida Mack Trucks, removed pesticide formulating equipment and leftover drums from site, washed interior of building with soapy water rinse, and capped rinsate pond area with concrete.	1978
Dames & Moore contracted by CCC to conduct initial soil and groundwater investigation at the site.	1981 – 1982
Explosion near west rinsate pond from leaking hydrochloric/nitric acid tanker truck.	Mar-84
Trucking service operations discontinued.	Nov-86
Jammal & Associates retained by Southeastern Investment Properties to conduct property transfer assessment of the site.	Jan-87
Mr. Uttal leased property to Mr. Richard Keating. Property used as a vehicle storage area.	1987 - 1988
Screening Site Inspection (under CERCLA) by NUS Corporation	May-89
Administrative Order of Consent (AOC) issued by U.S. EPA to Chevron Chemical Company and Mr. Robert Uttal to conduct cleanup at the site *(EPA Docket # 90-37-C)*.	5/15/90
Contamination Assessment Report issued by Brown and Caldwell Consultants (BCC)	Dec-90
Fire destroys pesticide formulating/warehouse building.	Mar-91
Removal Action Plan (RAP) developed by BCC.	Jul-91
On-site Removal Action resulting in all site structures demolished and removed, 90 to 100 gallons of free-product removed from subsurface soil, 17,760 tons of pesticide contaminated soil removed, 4,900 tons of petroleum hydrocarbon contaminated soil removed, 126,000 gallons of groundwater removed and treated with 5-step process.	2/92 – 9/92
Removal Action Report by BCC.	Dec-92
CCC purchased the site in foreclosure from First Union Bank.	1993
CCC voluntarily entered into another AOC with EPA to conduct a Remedial Investigation and Feasibility Study (RI/FS) in accordance with the Superfund Accelerated Cleanup Model (SACM) to assess the potential soil contamination both on-site and at the Armstrong Trailer Park north of the site *(EPA Docket # 92-46-C)*.	1/25/93
Groundwater sampling (Phase I) of on-site and off-site monitor wells and surface soil sampling (Phase II) at Armstrong Trailer Park by PTI Environmental Services.	4/93 - 9/93
Additional surface soil sampling (Phase II) at Armstrong Trailer Park by PTI Environmental Services.	Nov-93
CCC purchased the site in foreclosure from Resolution Trust Company.	1994
Site added to National Priorities List (NPL) by EPA.	1/19/94
Removal Action Plan Ammendment (RAPA) by TASK Environmental	Mar-94
Soil Removal Action at Armstrong Tailer Park north of site by TASK Environmental- 230 tons of pesticide contaminated soil removed (Chlordane > 4.9 mg/kg).	3/94 – 4/94
Removal Action Report Ammendment (RARA) by TASK Environmental	Jul-94
Baseline Risk Assessment by Black & Veatch Waste Science.	9/29/94
Remedial Investigation (RI) Report by TASK Environmental and PTI Environmental Services.	Nov-94
Feasibility Study (FS) Report by TASK Environmental and PTI Environmental Services.	Dec-94
Record of Decision (ROD) issued by EPA *(EPA/ROD/R04/-96/263)*. Groundwater remedy to be monitored natural attenuation (MNA). No Further Action necessary to protect human health from exposure to soil on site or at Armstrong Trailer Park.	5/22/96
Unilateral Administrative Order (UAO) issued by EPA for CCC to implement ROD.	Jul-97
Final monitoring well cluster installed	Oct-97
Groundwater Data Analysis and Supplemental Groundwater Modeling by Exponent	Dec-98
Comprehensive Data Review and Hydrogeochemical Conceptualization of the Chevron Orlando Site by Geomega	Sep-99
Evidence for Plume Attenuation and Stability report by Geomega	Dec-00
Five-Year Review for the Orlando site by Geomega	Oct-02

Table 4-1. Sampling and Analytical Plan Summary for the Chevron Orlando Site (1997 to 2002)

	Spring Sampling Event									Fall Sampling Event					
Well ID	Water Level	Conductivity, Temperature, pH, Eh, DO	HACH Ferrous Iron	Volitile Organic Chemicals (EPA 8021)	Chlorinated Pesticides (EPA 8081)	Organic-phosphorus Pesticides (EPA 8141)	Semi - Volitile Organic Chemicals (EPA 8270)	Metals As, Cr, Pb** (EPA 6010)	Alkalinity, TOC, BOD, COD, Nitrate, Sulfate, Sulfide	Water Level	Conductivity, Temperature, pH, Eh, DO	HACH Ferrous Iron	Volitile Organic Chemicals (EPA 8021)	Chlorinated Pesticides (EPA 8081)	Alkalinity, TOC, BOD, COD, Nitrate, Sulfate, Sulfide
MW-1S	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-1D	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-2S	o	o	o	x	o	x	x	o	x	o	o	o	x	o	x
MW-2D	o	o	o	x	o	x	x	o	x	o	o	o	x	o	x
MW-3S	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-3D	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-4S	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-4D	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-5S	o	o	o	x	o	x	x	o		o	o	o	x	o	x
MW-5D	o	o	o	x	o	x	x	o		o	o	o	x	o	x
MW-6S	o	x	x	x	x	x	x	x		o					
MW-6D	o	x	x	x	x	x	x	x		o					
MW-7S	o	o	o	o	x	x	x	x	x	o					
MW-7D	o	o	o	o	x	x	x	x	x	o					
MW-8S	o	o	o	x	o	x	x	o	x	o	o	o	x	o	x
MW-8D	o	o	o	x	o	x	x	o	x	o	o	o	x	o	x
MW-9D	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-10S	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-10D	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-11	o	x	x	x	x	x	x	x	x	o					
MW-12	o	o	o	x	o	x	x	o	x	o					
MW-15	o	o	o	o	o	x	x	o	x	o	o	o	o	o	x
MW-16S	o	o	o	o	o	x	x	o		o	o	o	o	o	
MW-16D	o	o	o	o	o	x	x	o		o	o	o	o	o	
MW-17	o	o	o	o	o	x	x	o		o	o	o	o	o	
MW-A	o									o					
MW-D	o	o	o	o	x	x	x	x	x	o					

o = retained analyses after 2000
x = eliminated analyses after 2000
Blank = not analyzed
*VOCs - only purgeable aromatics (e.g. benzene), not purgeable halocarbons
**6010 - after 2000 analyzed for Cr and Pb only (not As)

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
CO-EC-1-01		1	2	1	30	<2	<2	<2	<2
CO-EC-10-01		1	2	1	23	<0.2	<0.2	<0.2	<0.2
CO-EC-11-01		1	2	1	8.3	<0.2	<0.2	<0.2	<0.2
CO-EC-12-01		6	7	6	85	<2	<2	<2	<2
CO-EC-13-01		6	7	6	59	<2	<2	<2	<2
CO-EC-14-01		1	2	1	43	<2	<2	<2	<2
CO-EC-15-01		6	7	6	27	<2	<2	<2	<2
CO-EC-16-01		6	7	6	23	<2	<2	<2	<2
CO-EC-17-01		6	7	6	32	<2	<2	<2	<2
CO-EC-2-01		1	2	1	200	<2	<2	<2	<2
CO-EC-20-01		6	7	6	24	<0.2	<0.2	<0.2	0.3
CO-EC-21-01		6	7	6	4	<0.2	<0.2	<0.2	<0.2
CO-EC-22-01		6	7	6	9.3	<0.4	<0.4	<0.4	<0.4
CO-EC-23-01		1	2	1	4.2	<0.4	<0.4	<0.4	<0.4
CO-EC-24-01		1	2	1	16	<2	<2	<2	<2
CO-EC-25-01		1	2	1	2.5	<0.2	<0.2	<0.2	<0.2
CO-EC-26-01		1	2	1	1	<0.2	<0.2	<0.2	<0.2
CO-EC-27-01		1	2	1	23	<0.4	<0.4	<0.4	<0.4
CO-EC-28-01		1	2	1	87	3	1.6	1.1	2.3
CO-EC-3-01		1	2	1	110	<2	<2	<2	<2
CO-EC-31-01		1	2	1	0.45	<0.04	<0.04	<0.04	<0.04
CO-EC-31D-01		1	2	1	0.64	<0.04	<0.04	<0.04	<0.04
CO-EC-34-02		1	2	1	29	<0.8	<0.8	<0.8	<0.8
CO-EC-35-02		1	2	1	8.3	<1	<1	<1	<1
CO-EC-36-02		2	3	2	13	<0.4	0.93	<0.4	<0.4
CO-EC-37-02		2	3	2	16	<1	<1	<1	<1
CO-EC-39-03		2	3	2	17	<0.8	<0.8	<0.8	<0.8
CO-EC-4-01		1	2	1	21	<0.2	<0.2	<0.2	<0.2
CO-EC-40-03		2	3	2	350	<2	<2	<2	<2
CO-EC-41-03		2	3	2	5	<0.2	<0.2	<0.2	<0.2
CO-EC-43-01		10	11	10	0.92	<0.1	<0.1	<0.1	<0.1
CO-EC-44-01		10	11	10	0.43	<0.004	<0.004	<0.004	<0.004
CO-EC-45-01		10	11	10	2.7	<0.4	<0.4	<0.4	<0.4
CO-EC-46-01		10	11	10	67	<2	<2	<2	2.3
CO-EC-47-03		10	11	10	16	0.5	<0.2	0.3	0.87
CO-EC-48-03		10	11	10	57	2	<0.4	2.5	3.2
CO-EC-49-03		10	11	10	140	<4	<4	<4	5.5

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
CO-EC-5-01		1	2	1	12	<2	<2	<2	<2
CO-EC-50-03		10	11	10	1	<0.08	<0.08	<0.08	<0.08
CO-EC-51-03		10	11	10	9.2	<0.2	<0.2	<0.2	0.22
CO-EC-52-03		4	5	4	20	<0.4	<0.4	<0.4	<0.4
CO-EC-53-03		10	11	10	20	<0.8	<0.8	<0.8	<0.8
CO-EC-54-03		6	7	6	85	<0.8	<0.8	<0.8	1.8
CO-EC-55-03		6	7	6	17	<0.4	<0.4	<0.4	<0.4
CO-EC-56-03		6	7	6	80	<4	<4	<4	4.7
CO-EC-57-03		6	7	6	190	<20	<20	<20	<20
CO-EC-58-03		6	7	6	0.28	<0.04	<0.04	<0.04	<0.04
CO-EC-59-03		6	7	6	180	<4	<4	6.7	8.3
CO-EC-6-01		1	2	1	120	<2	<2	<2	<2
CO-EC-60-03		6	7	6	0.048	<0.004	<0.004	<0.004	0.014
CO-EC-61-03		10	11	10	3.2	<0.4	<0.4	<0.4	<0.4
CO-EC-62-03		4	5	4	2	<0.08	<0.08	<0.08	<0.08
CO-EC-65-01		1	2	1	110	<0.8	<0.8	<0.8	<0.8
CO-EC-66-01		1	2	1	180	<2	<2	<2	<2
CO-EC-67-01		1	2	1	18	<2	<2	<2	<2
CO-EC-68-01		1	2	1	240	<4	<4	<4	<4
CO-EC-69-01		1	2	1	18	<2	<2	<2	<2
CO-EC-7-01		1	2	1	75	<2	<2	<2	<2
CO-EC-71-01		1	2	1	0.38	<0.04	<0.04	<0.04	<0.04
CO-EC-72-03		7	8	7	98	12	2.4	14	7.5
CO-EC-73-03		10	11	10	7.3	<0.4	<0.4	<0.4	<0.4
CO-EC-74-03		10	11	10	3.2	<0.4	<0.4	<0.4	<0.4
CO-EC-75-03		10	11	10	0.83	<0.2	<0.2	<0.2	<0.2
CO-EC-76-03		10	11	10	95	<1	<1	<1	1.3
CO-EC-77-01		0	1	0	3.3	<0.08	<0.08	<0.08	<0.08
CO-EC-78-01		0	1	0	0.16	<0.004	0.0096	<0.004	0.012
CO-EC-79-01		0	1	0	1.7	<0.4	<0.4	<0.4	<0.4
CO-EC-8-01		1	2	1	23	<0.4	<0.4	<0.4	<0.4
CO-EC-80-01		0	1	0	3	<0.08	0.18	<0.08	<0.08
CO-EC-81-01		0	1	0	2.8	<0.4	<0.4	<0.4	<0.4
CO-EC-82-01		0	1	0	0.53	<0.02	<0.02	<0.02	<0.02
CO-EC-83-01		0	1	0	1	<0.04	0.05	<0.04	<0.04
CO-EC-84-01		0	1	0	1.4	<0.4	<0.4	<0.4	<0.4
CO-EC-85-01		0	1	0	1.7	<0.08	<0.08	<0.08	<0.08

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
CO-EC-86-01		0	1	0	0.16	<0.004	0.005	<0.004	<0.004
CO-EC-87-01		0	1	0	0.088	<0.004	<0.004	<0.004	<0.004
CO-EC-88-01		0	1	0	11	<0.4	<0.4	<0.4	<0.4
CO-EC-89-01		1	2	1	2.8	<0.08	<0.08	<0.08	<0.08
CO-EC-9-01		1	2	1	230	<2	<2	<2	<2
CO-EC-90-01		0	1	0	3.9	<0.4	<0.4	<0.4	<0.4
CO-EC-90D-01		0	1	0	5.3	<0.08	0.09	<0.08	<0.08
CO-EC-91-01		0	1	0	0.26	<0.08	<0.08	<0.08	<0.08
CO-EC-92-01		0	1	0	20	1.1	<0.4	1	3.3
CO-SB-01-01		0	0.5	1	8.2	0.42	11	0.55	10
CO-SB-02-01		0	0.5	2	13	<0.31	1.7	<0.31	2.5
CO-SB-04-01		0	0.5	2	1400	2100	48	76	130
CO-SB-04-02		1.5	2	2	<34	<17	<17	<17	<17
CO-SB-05-01		0	0.5	1	18	<1.7	<1.7	<1.7	<1.7
CO-SB-05-02		1.5	2	1	<0.68	<0.34	<0.34	<0.34	<0.34
CO-SB-06-01		0	0.5	1	<6.4	<3.2	<3.2	<3.2	<3.2
CO-SB-07-01		0	0.5	1	160	72	81	<59	320
CO-SB-08-01		0	0.5	6	5.1	<1.7	<1.7	<1.7	<1.7
CO-SB-10-01		1.5	2	6	1.3	<0.36	<0.36	<0.36	<0.36
CO-SB-11-01		1.5	2	6	<14	<6.9	<6.9	<6.9	<6.9
CO-SB-12-01		1.5	2	1	4.6	<0.35	<0.35	<0.35	<0.35
CO-SB-13-01		1.5	2	1	73	<0.36	<0.36	<0.36	<0.36
CO-SB-14-01		1.5	2	1	<0.7	<0.35	<0.35	<0.35	<0.35
CO-SB-15-01		1.5	2	2	<0.74	<0.37	<0.37	<0.37	<0.37
CO-SB-16-01		1.5	2	0	1100	<35	<35	<35	<35
CO-SB-17-01		4.5	5	10	<80	<40	<40	<40	<40
CO-SB-17-02		7.5	8	10	<74	<37	<37	<37	<37
CO-SB-18-01		4.5	5	10	26	<6.8	<6.8	<6.8	<6.8
CO-SB-18-02		7.5	8	10	<34	<17	<17	<17	<17
CO-SB-19-01		4.5	5	10	170	<30	<30	<30	<30
CO-SB-20-01		4.5	5	6	<0.7	<0.35	<0.35	<0.35	<0.35
CO-SB-21-01		4.5	5	10	<69	<34	<34	<34	<34
CO-SB-22-01		4.5	5	10	170	<18	<18	<18	<18
CO-SB-22-02		7.5	8	10	250	<16	<16	<16	<16
CO-SB-23-01		4.5	5	10	<170	<39	<39	<39	<39
CO-SB-23-02		7.5	8	10	470	<33	<33	<33	<33
CO-SB-24-01		1.5	2	0	760	<36	<36	<36	<36

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
CO-SB-25-01		1.5	2	1	100	<35	<35	<35	<35
CO-SB-26-01		1.5	2	6	87	<34	<34	<34	<34
CO-SB-26-02	Duplicate	1.5	2	6	<70	<35	<35	<35	<35
CO-SB-28-01		1.5	2	1	13	<0.36	<0.36	<0.36	<0.36
CO-SB-29-01		4.5	5	0	<0.64	<0.32	<0.32	<0.32	<0.32
CO-SB-29-02	Duplicate	4.5	5	0	<0.62	<0.31	<0.31	<0.31	<0.31
CO-SB-30-01		0	0.5	0	<0.67	<0.33	<0.33	<0.33	<0.33
CO-SB-31-01		4.5	5	0	<0.59	<0.29	<0.29	<0.29	<0.29
CO-SB-3S-01		0	0.5	0	43	<0.33	<0.33	<0.33	<0.33
CO-SB-9-01		0	0.5	6	<7.3	<3.7	<3.7	<3.7	<3.7
CSP 1-1		4	6	4	<1	<1	<1	<1	<1
CSP 1-2		6	8	4	<1	<1	<1	<1	<1
CSP 1-3		8	10	4	<1	<1	<1	<1	<1
CSP 10-1		4	6	4	24	<1	<1	<1	<1
CSP 10-2		6	8	4	19	<1	<1	<1	<1
CSP 10-3		8	10	4	1.4	<1	<1	<1	<1
CSP 2-1		4	6	6	<1	<1	<1	<1	<1
CSP 2-2		6	8	6	<1	<1	<1	<1	<1
CSP 2-3		8	10	6	16	<1	<1	<1	<1
CSP 3-1		4	6	6	<1	<1	<1	<1	<1
CSP 3-2		6	8	6	<1	<1	<1	<1	<1
CSP 3-3		8	10	6	<1	<1	<1	<1	<1
CSP 4-1		4	6	6	<1	<1	<1	<1	<1
CSP 4-2		6	8	6	<1	<1	<1	<1	<1
CSP 4-3		8	10	6	1.3	<1	<1	<1	<1
CSP 5-1		4	6	6	50	<1	<1	<1	<1
CSP 5-2		6	8	6	3.1	<1	<1	<1	<1
CSP 5-3		8	10	6	10	<1	<1	<1	<1
CSP 6-1		4	6	4	<1	<1	<1	<1	<1
CSP 6-2		6	8	4	<1	<1	<1	<1	<1
CSP 6-3		8	10	4	<1	<1	<1	<1	<1
CSP 7-1		4	6	6	<1	<1	<1	<1	<1
CSP 7-2		6	8	6	<1	<1	<1	<1	<1
CSP 7-3		8	10	6	<1	<1	<1	<1	<1
CSP 8-1		4	6	4	<1	<1	<1	<1	<1
CSP 8-2		6	8	4	<1	<1	<1	<1	<1
CSP 8-3		8	10	4	2	<1	<1	<1	<1

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
CSP 9-1		4	6	6	29	<1	<1	1	<1
CSP 9-2		6	8	6	6.8	<1	<1	<1	<1
CSP 9-3		8	10	6	5.6	<1	<1	<1	<1
DEEP EX-1		10	11	10	5.5	<1	<1	<1	<1
DEEP EX-2		10	11	10	<1	<1	<1	<1	<1
DEEP EX-3		10	11	10	5.9	<1	<1	<1	<1
DEEP EX-4		10	11	10	2.4	<1	<1	<1	<1
DEEP EX-5		10	11	10	1.4	<1	<1	<1	<1
DEEP EX-6		10	11	10	2.8	<1	<1	<1	<1
DUP-05-01		2	4	4	<10				
DUP-08-01		2	4	1	<10				
DUP-25-01		2	4	1	<10				
DUP-28-01		2	4	10	52				
DUP-31-01		2	4	1	<10				
DUP-35-01		2	4	0	<10				
DUP-53-01		2	4	0	<10				
DUP-58-01		2	4	1	<10				
DUP-61-01		2	4	2	<10				
EC 43-1		10	11	10	<1	<1	<1	<1	<1
EC 43-2		10	11	10	<1	<1	<1	<1	<1
EC 44-1		10	11	10	<1	<1	<1	<1	<1
EC 44-2		10	11	10	<1	<1	<1	<1	<1
EC 45-1		10	11	10	41	1.5	<1	1.6	2.2
EC 45-2		10	11	10	26	1.3	<1	1.2	1.6
EC 46-1		10	11	10	70	1.8	<1	1.1	2.3
EC 46-2		10	11	10	45	<1	<1	<1	1.3
EC 47-1		10	11	10	72	<5	<5	<5	<5
EC 47-2		10	11	10	41	<1	<1	<1	2.1
EC 48-1		10	11	10	130	5.5	<2	10	7.2
EC 48-2		10	11	10	120	5.8	<2	12	7.4
EC 49-1		10	11	10	110	6	<2	7.7	8.6
EC 49-2		10	11	10	130	8.5	2.3	12	13
EC 50-1		10	11	10	<1	<1	<1	<1	<1
EC 50-2		10	11	10	4	<1	<1	<1	<1
EC 51-1		10	11	10	100	<5	<5	8.2	<5
EC 51-2		10	11	10	65	<5	<5	5.4	<5
EC 52-1		4	5.5	4	190	6.5	<5	14	9.5

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
EC 52-2		5.5	7	4	14	<1	<1	<1	<1
EC 53-1		10	11	10	<1	<1	<1	<1	<1
EC 53-2		10	11	10	<1	<1	<1	<1	<1
EC 54-1		6	7	6	2.3	<1	<1	<1	<1
EC 54-2		6	7	6	<1	<1	<1	<1	<1
EC 58		6	7	6	6.3	<1	<1	<1	<1
EC 60-1		6	7	6	180	<5	<5	<5	8.2
EC 60-2		6	7	6	270	<5	<5	<5	12
EC 61		10	11	10	24	<1	<1	<1	<1
EC 61-1		10	11	10	200	<10	<10	<10	<10
EC 61-2		10	11	10	210	<10	<10	<10	<10
EC 62-1		4	5.5	4	<1	<1	<1	<1	<1
EC 62-2		5.5	7	4	<1	<1	<1	<1	<1
EC 68		1	2	1	69	<2	<2	<2	<2
RA 1-1		0	1	1	3.8	<1	<1	<1	<1
RA 10-1		0	1	1	720	33	<10	<10	CBI
RA 10-2		1	2	1	84	<10	<10	<10	<10
RA 100-2		1	2	10	52	<1	<1	<1	<1
RA 100-4		3	4	10	<10	<10	<10	<10	<10
RA 101-2		1	2	4	56	<5	<5	<5	<5
RA 102-1		0	1	4	44	<1	<1	<1	CBI
RA 102-4		3	4	4	<10	<10	<10	<10	<10
RA 103-1		0	1	6	27	<1	<1	<1	<1
RA 103-4		3	4	6	<10	<10	<10	<10	<10
RA 104-1		0	1	0	52	<5	<5	<5	<5
RA 108-1		0	1	6	6.2	<1	<1	<1	<1
RA 109-1		0	1	6	1.7	<1	<1	<1	<1
RA 109-2		1	2	6	18	<1	<1	<1	<1
RA 11-1		0	1	1	57	<1	<1	<1	<1
RA 112-2		1	2	6	20	<1	<1	<1	<1
RA 113-2		1	2	6	17	<1	<1	<1	<1
RA 114-4		3	4	6	97	5	1.4	2.4	4
RA 115-4		3	4	6	94	<10	<10	<10	<10
RA 116-4		3	4	6	140	<10	<10	<10	11
RA 116-5		4	5	6	360	13	<10	13	20
RA 117-1		0	1	0	<1	<1	<1	<1	<1
RA 118-4		3	4	10	<1	<1	<1	<1	<1

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
RA 119-4		3	4	10	150	<10	<10	<10	<10
RA 119-4		3	4	10	<10	<10	<10	<10	<10
RA 12-1		0	1	4	94	<1	<1	<1	<1
RA 120-4		3	4	10	81	<10	<10	<10	<10
RA 121-4		3	4	10	100	<10	<10	<10	<10
RA 122-4		3	4	10	250	<10	<10	12	<10
RA 123-4		3	4	10	210	18	<10	27	21
RA 126-4		3	4	10	23	<10	<10	<10	<10
RA 13-1		0	1	4	130	<1	<1	<1	<1
RA 13-4		3	4	4	<10	<10	<10	<10	<10
RA 132-4		3	4	10	380	<10	<10	18	18
RA 133-4		3	4	10	34	<10	<10	<10	<10
RA 137-2		1	2	1	22	<1	<1	<1	<1
RA 138-2		1	2	1	25	<1	<1	<1	<1
RA 139-2		1	2	1	32	<1	<1	<1	<1
RA 14-1		0	1	4	2.6	<1	<1	<1	<1
RA 140-2		1	2	1	16	<1	<1	<1	<1
RA 141-2		1	2	6	15	<1	<1	<1	<1
RA 142-2		1	2	6	7.3	<1	<1	<1	<1
RA 143-2		1	2	6	19	<1	<1	<1	<1
RA 144-2		1	2	6	8.5	<1	<1	<1	<1
RA 145-1		0	1	0	<1	<1	<1	<1	<1
RA 146-1		0	1	0	<1	1.4	<1	<1	<1
RA 147-1		0	1	0	<1	<1	<1	<1	<1
RA 148-1		0	1	0	<1	<1	<1	<1	<1
RA 149-1		0	1	0	<1	<1	<1	<1	<1
RA 15-1		0	1	10	9.3	<1	<1	<1	<1
RA 15-2		1	2	10	8.8	<1	<1	<1	<1
RA 15-3		2	3	10	3.8	<1	<1	<1	<1
RA 15-4		3	4	10	<10	<10	<10	<10	<10
RA 153-1		0	1	0	41	<1	<1	<1	<1
RA 154-1		0	1	0	1.5	<1	<1	<1	<1
RA 155-2		1	2	1	19	<1	<1	<1	<1
RA 156-2		1	2	1	34	<1	<1	<1	<1
RA 157-2		1	2	0	<1	<1	<1	<1	<1
RA 158-2		1	2	0	<1	<1	<1	<1	<1
RA 16-1		0	1	10	70	<1	<1	<1	<1

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
RA 16-2		1	2	10	220	<10	<10	<10	<10
RA 16-3		2	3	10	130	<10	<10	<10	<10
RA 16-4		3	4	10	210	<10	<10	<10	<10
RA 16-5		4	5	10	350	<10	<10	<10	<10
RA 17-1		0	1	10	130	<1	<1	<1	<1
RA 17-2		1	2	10	22	<1	<1	<1	<1
RA 17-3		2	3	10	2.5	<1	<1	<1	<1
RA 17-4		3	4	10	120	1.9	<1	<1	6.1
RA 18-1		0	1	2	68	<1	<1	<1	<1
RA 18-2		1	2	2	100	<10	<10	<10	<10
RA 18-3		2	3	2	70	<10	<10	<10	<10
RA 18-4		3	4	2	55	2.4	<1	2	2.9
RA 18-5		4	5	2	<10	<10	<10	<10	<10
RA 19-1		0	1	6	2000	<100	<100	<100	<100
RA 19-2		1	2	6	53	<1	<1	<1	1.7
RA 19-3		2	3	6	40	<10	<10	<10	<10
RA 19-4		3	4	6	100	<10	<10	<10	<10
RA 19-5		4	5	6	100	<10	<10	<10	<10
RA 2-1		0	1	1	58	<1	<1	<1	<1
RA 20-1		0	1	10	94	<1	<1	<1	CBI
RA 20-4		3	4	10	110	<10	<10	<10	<10
RA 20-5		4	5	10	280	<10	<10	<10	<10
RA 21-1		0	1	10	22	<1	<1	<1	<1
RA 21-2		1	2	10	5.7	<1	<1	<1	<1
RA 21-3		2	3	10	2	<1	<1	<1	<1
RA 21-4		3	4	10	1500	14	<10	17	<10
RA 21-5		4	5	10	820	14	<10	14	20
RA 22-1		0	1	10	20	<1	<1	<1	<1
RA 22-2		1	2	10	<1	<1	<1	<1	<1
RA 22-3		2	3	10	<1	<1	<1	<1	<1
RA 22-4		3	4	10	180	<10	<10	<10	<10
RA 23-1		0	1	10	41	<10	<10	<10	<10
RA 23-2		1	2	10	44	<1	<1	<1	<1
RA 23-3		2	3	10	25	<1	<1	<1	<1
RA 23-4		3	4	10	50	<10	<10	<10	<10
RA 24-1		0	1	10	2.9	<1	<1	<1	<1
RA 24-2		1	2	10	7.9	<1	<1	<1	<1

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
RA 24-3		2	3	10	<1	<1	<1	<1	<1
RA 24-4		3	4	10	290	<10	<10	11	11
RA 24-5		4	5	10	480	18	<10	24	24
RA 25-1		0	1	10	100	<1	<1	<1	<1
RA 25-2		1	2	10	110	<10	<10	<10	<10
RA 25-3		2	3	10	440	31	<10	31	40
RA 25-4		3	4	10	330	<10	<10	<10	<10
RA 25-5		4	5	10	450	<10	<10	12	16
RA 26-1		0	1	1	41	<10	<10	<10	<10
RA 26-2		1	2	1	58	<10	<10	<10	<10
RA 26-3		2	3	1	32	<1	<1	<1	1.1
RA 26-4		3	4	1	57	<10	<10	<10	<10
RA 26-5		4	5	1	89	<10	<10	<10	<10
RA 27-1		0	1	0	45	<1	<1	<1	2.4
RA 27-2		1	2	0	55	<10	<10	<10	<10
RA 27-3		2	3	0	43	<10	<10	<10	<10
RA 27-4		3	4	0	70	<10	<10	<10	<10
RA 28-1		0	1	10	96	1.6	<1	<1	CBI
RA 28-2		1	2	10	170	<10	<10	<10	<10
RA 28-3		2	3	10	250	<10	<10	<10	13
RA 28-4		3	4	10	220	<10	<10	<10	<10
RA 29-1		0	1	10	200	<10	<10	<10	<10
RA 29-2		1	2	10	280	<10	<10	<10	12
RA 29-4		3	4	10	200	<10	<10	<10	<10
RA 3-1		0	1	2	110	<1	<1	<1	CBI
RA 30-1		0	1	4	110	<1	<1	<1	<1
RA 30-1		0	1	4	6.4	<1	<1	<1	<1
RA 31-1		0	1	0	20	<1	<1	<1	<1
RA 32-1		0	1	0	1.3	<1	<1	<1	<1
RA 33-1		0	1	1	50	<1	<1	<1	<1
RA 33-2		1	2	1	31	<1	<1	<1	<1
RA 34-1		0	1	1	37	<1	<1	<1	<1
RA 35-1		0	1	1	1.9	<1	<1	<1	<1
RA 36-1		0	1	1	60	<1	<1	<1	<1
RA 36-2		1	2	1	76	<1	<1	<1	<1
RA 37-1		0	1	1	11	<1	<1	<1	<1
RA 37-2		1	2	1	13	<1	<1	<1	<1

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
RA 38-1		0	1	1	29	<1	<1	<1	<1
RA 38-2		1	2	1	15	<1	<1	<1	<1
RA 39-1		0	1	1	21	<1	<1	<1	<1
RA 39-2		1	2	1	18	<1	<1	<1	<1
RA 4-1		0	1	1	96	<1	<1	<1	<1
RA 40-1		0	1	1	140	<1	<1	<1	<1
RA 40-2		1	2	1	77	<1	<1	<1	<1
RA 41-1		0	1	1	15	<1	<1	<1	<1
RA 42-1		0	1	1	1.5	<1	<1	<1	<1
RA 43-1		0	1	6	59	<1	<1	<1	CBI
RA 44-1		0	1	6	79	<1	<1	<1	<1
RA 45-1		0	1	6	54	<1	<1	<1	<1
RA 46-1		0	1	6	20	<1	<1	<1	<1
RA 46-2		1	2	6	21	<1	<1	<1	<1
RA 47-1		0	1	1	12	<1	<1	<1	<1
RA 48-1		0	1	0	3.4	<1	<1	<1	<1
RA 49-1		0	1	0	<1	<1	<1	<1	<1
RA 5-1		0	1	1	430	<10	<10	<10	<10
RA 50-1		0	1	0	28	<1	<1	<1	<1
RA 51-1		0	1	0	1.5	<1	<1	<1	<1
RA 52-1		0	1	0	<1	<1	<1	<1	<1
RA 53-1		0	1	0	<1	<1	<1	<1	<1
RA 54-1		0	1	0	<1	<1	<1	<1	<1
RA 55-1		0	1	2	75	<1	<1	<1	<1
RA 55-2		1	2	2	140	<1	<1	<1	<1
RA 56-1		0	1	1	49	<1	<1	<1	<1
RA 56-2		1	2	1	140	<2	<2	<2	<2
RA 57-1		0	1	1	130	<1	<1	<1	<1
RA 59-1		0	1	1	54	<1	<1	<1	<1
RA 6-1		0	1	1	19	<1	<1	<1	<1
RA 60-1		0	1	6	32	<1	<1	<1	<1
RA 61-1		0	1	6	30	<1	<1	<1	<1
RA 62-1		0	1	6	37	<1	<1	<1	<1
RA 62-2		1	2	6	<1	<1	<1	<1	<1
RA 63-1		0	1	6	6	<1	<1	<1	<1
RA 63-2		1	2	6	2.3	<1	<1	<1	<1
RA 64-1		0	1	1	50	<1	<1	<1	<1

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
RA 64-3		2	3	1	<1	<1	<1	<1	<1
RA 65-1		0	1	2	80	<1	<1	<1	<1
RA 65-2		1	2	2	34	<1	<1	<1	<1
RA 65-3		2	3	2	<1	<1	<1	<1	<1
RA 66-1		0	1	1	<1	<1	<1	<1	<1
RA 67-1		0	1	1	26	<1	<1	<1	<1
RA 68-1		0	1	1	11	<1	<1	<1	<1
RA 69-1		0	1	2	880	<10	<10	<10	<10
RA 69-3		2	3	2	<1	<1	<1	<1	<1
RA 7-1		0	1	1	620	<10	<10	<10	<10
RA 7-2		1	2	1	56	<10	<10	<10	<10
RA 70-1		0	1	6	62	<1	<1	<1	<1
RA 71-1		0	1	6	9.2	<1	<1	<1	<1
RA 72-1		0	1	6	1.3	<1	<1	<1	<1
RA 73-1		0	1	6	<1	<1	<1	<1	<1
RA 74-1		0	1	6	3.9	<1	<1	<1	<1
RA 76-1		0	1	0	4.4	<1	<1	<1	<1
RA 77-1		0	1	0	1.3	<1	<1	<1	<1
RA 78-1		0	1	0	7.7	<1	<1	<1	<1
RA 79-1		0	1	0	25	<1	<1	<1	<1
RA 8-1		0	1	1	190	<10	<10	<10	<10
RA 8-2		1	2	1	120	<1	<1	<1	<1
RA 80-1		0	1	0	2	<1	<1	<1	<1
RA 81-1		0	1	0	26	<1	<1	<1	<1
RA 82-1		0	1	0	160	<1	<1	<1	<1
RA 82-2		1	2	0	28	<1	<1	<1	<1
RA 83-3		2	3	4	65	1.9	<1	3.4	CBI
RA 83-4		3	4	4	52	<10	<10	<10	<10
RA 83-5		4	5	4	<10	<10	<10	<10	<10
RA 84-2		1	2	4	130	<10	<10	<10	<10
RA 84-3		2	3	4	<1	<1	<1	<1	<1
RA 84-4		3	4	4	<10	<10	<10	<10	<10
RA 84-5		4	5	4	<10	<10	<10	<10	<10
RA 85-2		1	2	10	1.7	<1	<1	1.7	<1
RA 85-3		2	3	10	<1	<1	<1	<1	<1
RA 85-4		3	4	10	<10	<10	<10	<10	<10
RA 86-2		1	2	10	46	<1	<1	<1	<1

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
RA 86-3		2	3	10	79	1.5	<1	2.2	3.1
RA 87-2		1	2	2	290	<10	<10	<10	<10
RA 87-3		2	3	2	33	<1	<1	<1	<1
RA 88-2		1	2	1	110	<10	<10	<10	<10
RA 88-4		3	4	1	2.3	<1	<1	<1	<1
RA 9-1		0	1	1	450	24	<10	<10	CBI
RA 90-2		1	2	10	28	<1	<1	<1	<1
RA 90-3		2	3	10	120	<1	<1	<1	<1
RA 90-4		3	4	10	<10	<10	<10	<10	<10
RA 91-2		1	2	1	51	<1	1.6	<1	<1
RA 91-3		2	3	1	1.4	<1	<1	<1	<1
RA 92-2		1	2	1	81	<10	<10	<10	<10
RA 92-3		2	3	1	24	<10	<10	<10	<10
RA 93-2		1	2	10	7900	<100	<100	<100	CBI
RA 93-3		2	3	10	100	<10	<10	<10	<10
RA 93-4		3	4	10	210	<10	<10	<10	<10
RA 93-5		4	5	10	380	<10	<10	14	19
RA 94-2		1	2	10	140	<10	<10	<10	<10
RA 94-3		2	3	10	1400	<100	<100	<100	<100
RA 96-2		1	2	2	46	<1	<1	<1	<1
RA 97-2		1	2	10	190	<10	<10	<10	<10
RA 97-4		3	4	10	240	<10	<10	<10	<10
RA 98-2		1	2	10	86	<1	<1	<1	<1
RA 98-4		3	4	10	260	<10	<10	<10	<10
RA 99-2		1	2	10	46	<1	<1	<1	<1
RA 99-4		3	4	10	230	<10	<10	<10	<10
RT 1		0	1	0	84	<1	<1	<1	<1
RT 10		0	1	7	230	<10	<10	<10	<10
RT 10-2		1	2	7	84	<1	1.1	<1	<1
RT 11		0	1	2	490	<10	<10	<10	<10
RT 11-2		1	2	2	21	<1	2.3	<1	3.7
RT 12-1		0	1	4	700	<10	17	<10	18
RT 12-2		1	2	4	74	<10	<10	<10	<10
RT 13		0	1	7	400	88	20	21	140
RT 13-2		1	2	7	46	<10	<10	<10	<10
RT 14-1		0	1	1	87	<10	<10	<10	<10
RT 14-2		1	2	1	16	<10	<10	<10	<10

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
RT 15		0	1	2	350	35	<10	<10	<10
RT 15-2		1	2	2	54	<10	<10	<10	<10
RT 16-1		0	1	1	23	<1	<1	<1	<1
RT 17-1		0	1	1	43	5.9	1.6	<1	<1
RT 18-1		0	1	1	15	<1	<1	<1	<1
RT 19-1		0	1	1	37	<1	<1	<1	<1
RT 2		0	1	1	16	<1	<1	<1	<1
RT 20-1		0	1	6	<1	<1	<1	<1	<1
RT 22-2		1	2	2	17	<1	<1	<1	<1
RT 22-3		2	3	2	380	<100	<100	<100	<100
RT 22-4		3	4	2	44	<10	<10	<10	<10
RT 22-5		4	5	2	55	<10	<10	<10	<10
RT 22-6		5	6	2	120	21	<10	19	11
RT 23-2		1	2	7	71	<10	<10	<10	<10
RT 23-3		2	3	7	45	<10	<10	<10	<10
RT 23-4		3	4	7	<1	<1	<1	<1	<1
RT 23-5		4	5	7	<10	<10	<10	<10	<10
RT 23-6		5	6	7	16	<10	<10	<10	<10
RT 24-2		1	2	2	110	<10	<10	<10	<10
RT 24-3		2	3	2	<1	<1	<1	<1	<1
RT 24-4		3	4	2	<1	<1	<1	<1	<1
RT 25-2		1	2	1	4.4	<1	<1	<1	<1
RT 26-2		1	2	2	5.7	<1	<1	<1	<1
RT 27-3		2	3	4	<1	<1	<1	<1	<1
RT 27-4		3	4	4	<1	<1	<1	<1	<1
RT 28-3		2	3	7	18	<1	<1	<1	<1
RT 28-4		3	4	7	4	<1	<1	<1	<1
RT 28-5		4	5	7	18	<10	<10	<10	<10
RT 29-3		2	3	2	5.6	<1	1.6	<1	1.5
RT 29-4		3	4	2	24	4.2	3.4	1.1	5.6
RT 3		0	1	1	83	<1	<1	<1	<1
RT 30-3		2	3	2	<1	<1	<1	<1	<1
RT 30-4		3	4	2	1.2	<1	<1	<1	<1
RT 30-5		4	5	2	1.6	<1	<1	<1	<1
RT 30-6		5	6	2	<1	<1	<1	<1	<1
RT 31-3		2	3	4	100	<10	<10	<10	<10
RT 31-4		3	4	4	68	<10	<10	<10	<10

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
RT 31-5		4	5	4	48	<10	<10	<10	<10
RT 31-6		5	6	4	39	3.3	<1	4.7	3.1
RT 32-7		6	7	7	1.2	<1	<1	<1	<1
RT 33-7		6	7	7	18	9.9	2.1	<1	1.7
RT 34-7		6	7	2	57	11	3.3	9.4	7.7
RT 4		0	1	1	2.1	<1	<1	<1	<1
RT 5-1		0	1	0	3.4	<1	<1	<1	<1
RT 7		0	1	1	540	<10	44	<10	<10
RT 8		0	1	2	59	<1	3.1	<1	<1
RT 9		0	1	2	530	<10	CBI	<10	<10
RT 9-2		1	2	2	350	<10	<10	<10	16
SP-1		4	4	10	<1	<1	<1	<1	<1
SP-10		4	4	10	61	<10	<10	<10	<10
SP-11		4	4	10	1.3	<1	<1	<1	<1
SP-12		4	4	10	34	<1	<1	<1	2.1
SP-13		4	4	10	400	<10	<10	<10	23
SP-14		4	4	10	400	<10	<10	<10	<10
SP-15		4	4	6	170	<10	<10	<10	<10
SP-16		4	4	6	460	<10	<10	<10	<10
SP-17		4	4	6	13	<1	<1	<1	<1
SP-18		4	4	1	150	<10	<10	<10	<10
SP-19		4	4	4	34	2.5	<1	<1	2.5
SP-2		4	4	10	120	<10	<10	<10	<10
SP-20		4	4	4	73	<10	<10	<10	<10
SP-21		4	4	4	46	1.4	<1	<1	1.8
SP-22		4	4	4	67	4.1	1.1	5.9	5.6
SP-3		4	4	10	73	<10	<10	<10	<10
SP-4		4	4	4	8.7	<1	<1	<1	<1
SP-5		4	4	10	73	1.2	<1	1.5	2.7
SP-6		4	4	10	55	3.5	3.6	3.6	4.6
SP-7		4	4	10	190	<10	<10	<10	<10
SP-8		4	4	10	230	23	<10	37	<10
SP-9		4	4	10	<1	<1	<1	<1	<1
SPT-02-01		2	4	2	<10				
SPT-02-02		4	6	2	<10				
SPT-03-01		2	4	0	<10				
SPT-03-02		4	6	0	<10				

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
SPT-04-01		2	4	0	<10				
SPT-04-02		4	6	0	<10				
SPT-05-01		2	4	4	15				
SPT-05-02		4	6	4	<10				
SPT-06-01		2	4	4	43				
SPT-06-02		4	6	4	18				
SPT-06-03		8	10	4	<10				
SPT-06-2.5		6	8	4	28				
SPT-07-01		2	4	4	11				
SPT-07-02		4	6	4	<10				
SPT-07-03		8	10	4	<10				
SPT-08-01		2	4	1	<10				
SPT-08-02		4	6	1	<10				
SPT-09-01		2	4	1	<10				
SPT-09-02		4	6	1	<10				
SPT-10-01		2	4	0	<10				
SPT-10-02		4	6	0	<10				
SPT-11-01		2	4	0	<10				
SPT-11-02		4	6	0	<10				
SPT-12-01		2	4	0	<10				
SPT-12-02		4	6	0	<10				
SPT-13-01		2	4	1	<10				
SPT-13-02		4	6	1	<10				
SPT-14-01		2	4	1	<10				
SPT-14-02		4	6	1	<10				
SPT-15-01		2	4	1	<10				
SPT-15-02		4	6	1	<10				
SPT-16-01		2	4	6	50				
SPT-16-02		4	6	6	13				
SPT-16-03		8	10	6					
SPT-16-2.5		6	8	6	16				
SPT-17-01		2	4	10	86				
SPT-17-02		4	6	10	295				
SPT-17-03		8	10	10	142				
SPT-18-01		2	4	10	38				
SPT-18-02		4	6	10	12				
SPT-18-03		8	10	10	<10				

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
SPT-18-2.5		6	8	10	<10				
SPT-19-01		2	4	1	<10				
SPT-19-02		4	6	1	<10				
SPT-19A-2.5		6	8	1	<10				
SPT-20-01		2	4	1	<10				
SPT-20-02		4	6	1	<10				
SPT-20-03		8	10	1	<10				
SPT-21-01		2	4	2	<10				
SPT-21-02		4	6	2	<10				
SPT-21-03		8	10	2	<10				
SPT-24-01		2	4	1	<10				
SPT-24-02		4	6	1	28				
SPT-24-03		8	10	1	<10				
SPT-25-01		2	4	1	<10				
SPT-25-02		4	6	1	<10				
SPT-26-01		2	4	1	<10				
SPT-26-02		4	6	1	<10				
SPT-27-01		2	4	10	23				
SPT-27-02		4	6	10	14				
SPT-27-03		8	10	10	13				
SPT-27-2.5		6	8	10	13				
SPT-28-01		2	4	10	54				
SPT-28-02		4	6	10	244				
SPT-28-03		8	10	10	249				
SPT-28-2.5		6	8	10	205				
SPT-29-01		2	4	6	13				
SPT-29-02		4	6	6	10				
SPT-29-03		8	10	6	<10				
SPT-29-2.5		6	8	6	<10				
SPT-30-01		2	4	1	<10				
SPT-30-02		4	6	1	11				
SPT-30-2.5		6	8	1	<10				
SPT-31-01		2	4	1	<10				
SPT-31-02		4	6	1	<10				
SPT-32-01		2	4	1	<10				
SPT-32-02		4	6	1	<10				
SPT-33-01		2	4	0	<10				

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
SPT-33-02		4	6	0	<10				
SPT-33-03		8	10	0	<10				
SPT-34-01		2	4	0	<10				
SPT-34-02		4	6	0	<10				
SPT-35-01		2	4	0	<10				
SPT-35-02		4	6	0	<10				
SPT-36-01		2	4	0	<10				
SPT-36-02		4	6	0	<10				
SPT-37-01		2	4	0	11				
SPT-37-02		4	6	0	28				
SPT-37-03		8	10	0	<10				
SPT-37-2.5		6	8	0	14				
SPT-38-01		2	4	6	<10				
SPT-38-02		4	6	6	<10				
SPT-38-03		8	10	6	<10				
SPT-38-2.5		6	8	6	<10				
SPT-39-01		2	4	10	72				
SPT-39-02		4	6	10	70				
SPT-39-03		8	10	10	110				
SPT-39-2.5		6	8	10	93				
SPT-40-01		2	4	4	<10				
SPT-40-02		4	6	4	<10				
SPT-41-01		2	4	1	<10				
SPT-41-02		4	6	1	19				
SPT-42-01		2	4	1	<10				
SPT-42-02		4	6	1	<10				
SPT-43-01		2	4	1	<10				
SPT-43-02		4	6	1	<10				
SPT-44-01		2	4	1	<10				
SPT-44-02		4	6	1	<10				
SPT-45-01		2	4	6	<10				
SPT-45-02		4	6	6	<10				
SPT-46-01		2	4	6	<10				
SPT-46-02		4	6	6	<10				
SPT-47-01		2	4	6	<10				
SPT-47-02		4	6	6	<10				
SPT-48-01		2	4	1	<10				

Table 6-1. Pesticide Concentrations in Soils at Chevron Orlando, Florida

Sample ID	Duplicate	Upper Depth (Feet)	Lower Depth (Feet)	Excavation Depth (Feet)	Total -Chlordane (mg/Kg)	alpha-BHC (mg/Kg)	beta-BHC (mg/Kg)	gamma-BHC (mg/Kg)	delta-BHC (mg/Kg)
SPT-48-02		4	6	1	<10				
SPT-49-01		2	4	6	<10				
SPT-49-02		4	6	6	<10				
SPT-50-01		2	4	6	<10				
SPT-50-02		4	6	6	<10				
SPT-51-01		2	4	6	<10				
SPT-51-02		4	6	6	<10				
SPT-52-01		2	4	1	<10				
SPT-52-02		4	6	1	<10				
SPT-53-01		2	4	0	<10				
SPT-53-02		4	6	0	<10				
SPT-54-01		2	4	6	<10				
SPT-54-02		4	6	6	<10				
SPT-55-01		2	4	6	<10				
SPT-55-02		4	6	6	<10				
SPT-56-01		2	4	6	<10				
SPT-56-02		4	6	6	<10				
SPT-57-01		2	4	1	<10				
SPT-57-02		4	6	1	<10				
SPT-58-01		2	4	1	<10				
SPT-58-02		4	6	1	<10				
SPT-59-01		2	4	4	<10				
SPT-59-02		4	6	4	<10				
SPT-59-03		8	10	4	<10				
SPT-59-2.5		6	8	4	<10				
SPT-60-01		2	4	2	<10				
SPT-60-02		4	6	2	<10				
SPT-60-03		8	10	2	<10				
SPT-61-01		2	4	2	<10				
SPT-61-02		4	6	2	<10				
SPT-62-01		2	4	1	<10				
SPT-62-02		4	6	1	<10				
SPT-A-01		1	2	0	94				
SPT-B-01		1	2	0	<10				
SPT-C-01		1	2	4	56				
SPT-D-01		1	2	1	81				

Table 6-2. On-site Soil Performance Standards.

Contaminant of Concern (COC)	On-Site Soil				
	ROD Exposure Pt. Conc.		RAR Soil Removal[1] Cleanup Action Levels		EPA Region III[2] Screen. Val
	(Surface) (mg/kg)	(sufc./subsufc.) (mg/kg)	(Surface) (mg/kg)	(Subsufce) (mg/kg)	(sufc./subsufc.) (mg/kg)
a-BHC	**	1.4			0.1
b-BHC	1.1	1.2			0.35
g-BHC (Lindane)	**	1.4			0.49
d-BHC	**	**			**
Chlordane	8.6	46	50	100	0.49
4,4'-DDD	2.5	17			2.7
Benzene	**	**			**
Toluene	**	**			1600
Ethylbenzene	**	**			780
Xylenes	**	**			16000
TRPH[†]	**	**	5	5	**
Arsenic	**	**			**
Chromium	**	**			39
Lead	**	**			NL
Total Napthalenes	**	**			**
4,4'-DDE	1.1	2.1			1.9
4,4'-DDT	1.4	2.7			1.9
Aldrin	1.2	1.5			0.04
Dieldrin	1.2	2			0.04
Heptachlor Epoxide	0.6	**			**
Endrin	**	6.7			2.3

[†] TRPH (Total Recoverable Petroleum Hydrocarbons)

[1] Removal Action Report (RAR), Brown & Caldwell Consultants, December 1992. Soil Removal Action Levels were determined by EPA and ATSDR. Water Treatment System (WTS) was designed to remove and/or reduce the expected contaminants to the treatment levels required by the epa-osc.

[2] EPA Region III Risk based concentrations==> tapwater criteria values (7/11/94)

Table 6-3. Off-site Soil Performance Standards.

Contaminant of Concern (COC)	Off-Site Soil		
	ROD Exp. Pt. Conc. (Surface) (mg/kg)	RARA[1] PRG (Surface) (mg/kg)	EPA Region III[2] Screen Val. (Surface) (mg/kg)
a-BHC	**		0.1
b-BHC	**		[illegible]
g-BHC (Lindane)	**		0.49
d-BHC	**		[illegible]
Chlordane	3.9	4.9	0.49
4,4'-DDD	**		2.7
			[illegible]
Benzene	**		[illegible]
Toluene	**		[illegible]
Ethylbenzene	**		[illegible]
Xylenes	**		[illegible]
TRPH†	**		[illegible]
			[illegible]
Arsenic	**		[illegible]
Chromium	**		[illegible]
Lead	79		NL
			[illegible]
Total Napthalenes	**		[illegible]
4,4'-DDE	**		1.9
4,4'-DDT	**		1.9
Aldrin	**		[illegible]
Dieldrin	0.066		0.04
Heptachlor Epoxide	**		0.07
Endrin	**		[illegible]

† TRPH (Total Recoverable Petroleum Hydrocarbons)

[1] Removal Action Report Amendment (RARA), Brown & Caldwell Consultants, July 1994. The goal of the additional Removal Action was to excavate and dispose of soils with chlordane concentrations exceeding the Preliminary Remediation Goal (PGR).

[2] EPA Region III Risk based concentrations==> tapwater criteria values (7/11/94)

Table 6-4. Natural Attenuation Score Sheet

Analyte	Criterion	Concentration in Most Contaminated Zone	Points Awarded
Dissolved Oxygen	< 0.5 mg/L	0.29 mg/L	3
Nitrate	< 1 mg/L	<0.05 mg/L	2
Ferrous Iron	> 1 mg/L	12 mg/L	3
Sulfate	< 20 mg/L	50 mg/L	0
Sulfide	> 1 mg/L	0.6 mg/L	0
Methane	> 0.5 mg/L	0.2 mg/L	0
Redox Potential	< 50 mV	-19 mV	1
pH	5 < pH < 9	5.56	0
Total Organic Carbon	> 20 mg/L	33 mg/L	2
Temperature	> 20 °C	21.1 °C	1
Carbon Dioxide	> 2X background	210 mg/L	0
Alkalinity	> 2X background	45 mg/L	1
Chloride	> 2X background	70 mg/L	2
Hydrogen	> 1 nM	2.2 nM	3
BTEX	> 0.1 mg/L	36.7 mg/L	2
Daughter Products*	detected	yes	1
Total			**21**

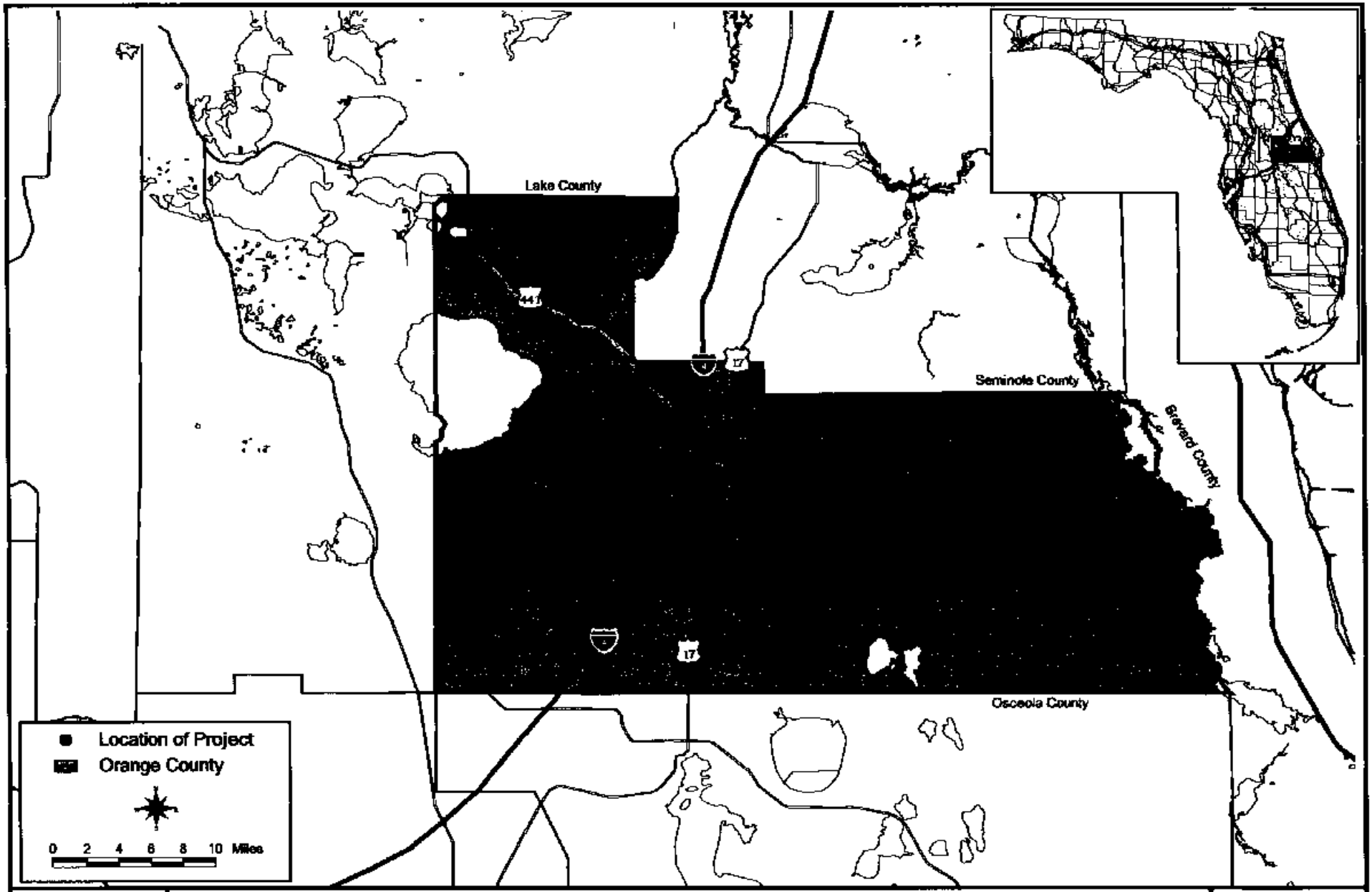
Score	Interpretation
0 to 5	Inadequate evidence for biodegradation
6 to 14	Limited evidence for biodegradation
15 to 20	Adequate evidence for biodegradation
>20	Strong evidence for biodegradation

*Although the 1997 EPA protocol does not score daughter products for the specific COCs at the Marzone site, one point was awarded for daughter products being detected at the site.

Table 9-1. Sampling and Analytical Plan Summary for the Chevron Orlando Site (2nd Five-Year Review Period)

	Spring Sampling Event					Fall Sampling Event				
Well ID	Water Level	Conductivity, Temperature, pH, Eh, DO	HACH Ferrous Iron	Volitile Organic Chemicals* (EPA 8021)	Chlorinated Pesticides (EPA 8081)	Water Level	Conductivity, Temperature, pH, Eh, DO	HACH Ferrous Iron	Volitile Organic Chemicals* (EPA 8021)	Chlorinated Pesticides (EPA 8081)
MW-1S	annual	annual	annual		annual	annual	annual	annual		annual
MW-1D	annual	annual	annual	annual	annual	annual	annual	annual	annual	annual
MW-2S	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-2D	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-3S	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-3D	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-4S	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-4D	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-5S	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-5D	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-6S	annual					annual				
MW-6D	annual					annual				
MW-7S	annual					annual				
MW-7D	annual					annual				
MW-8S	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-8D	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-9D	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-10S	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-10D	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-11	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-12	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-15	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-16S	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-16D	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-17	annual	annual	2,4		2,4	annual	annual	2,4		2,4
MW-A	annual					annual				
MW-D	annual					annual				

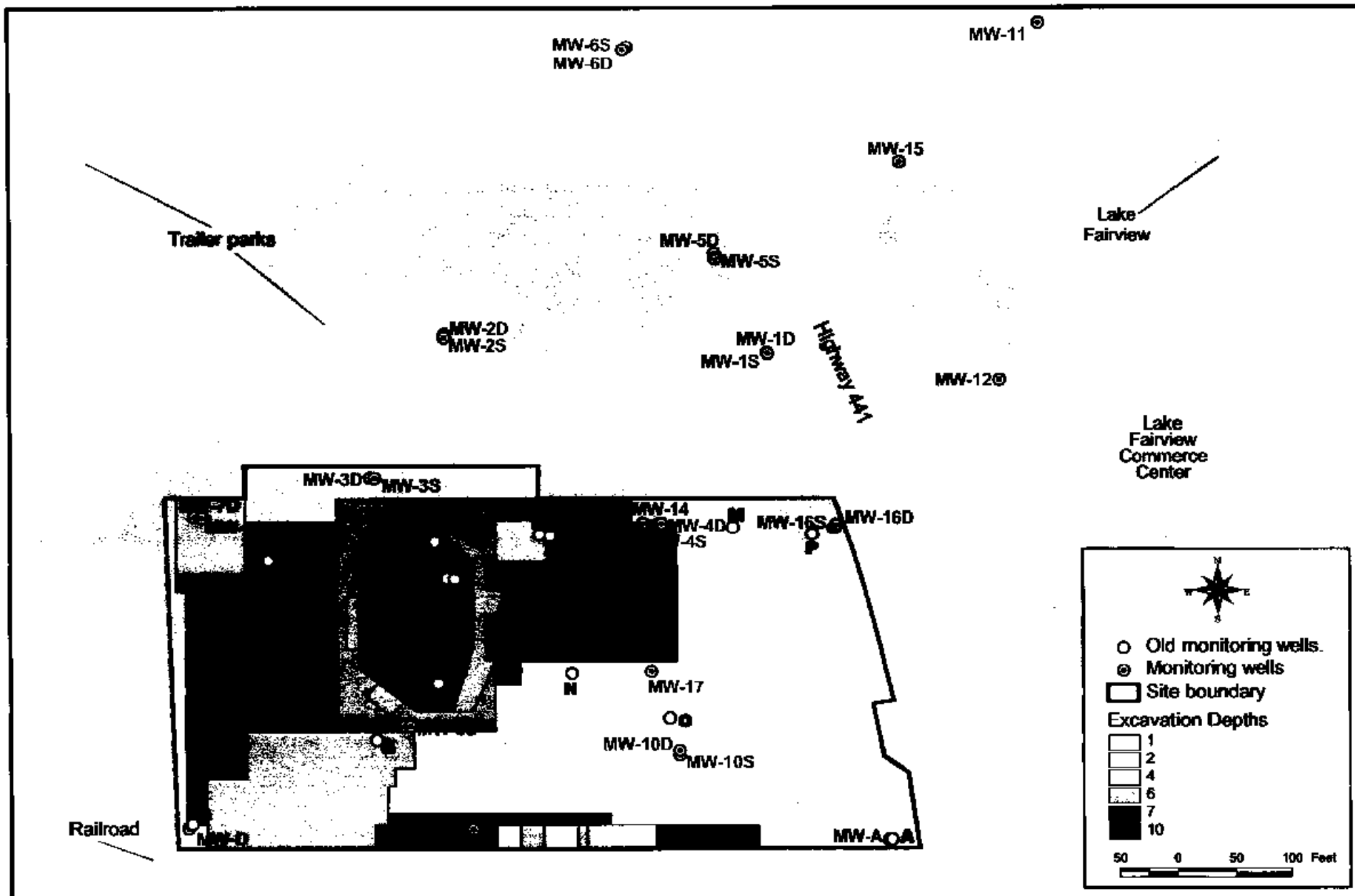
Blank = not analyzed
annual = annual sampling
2,4 = sampling in the second year (2004) and fourth year (2006)
*VOCs - only purgeable aromatics (e.g. benzene), not purgeable halocarbons



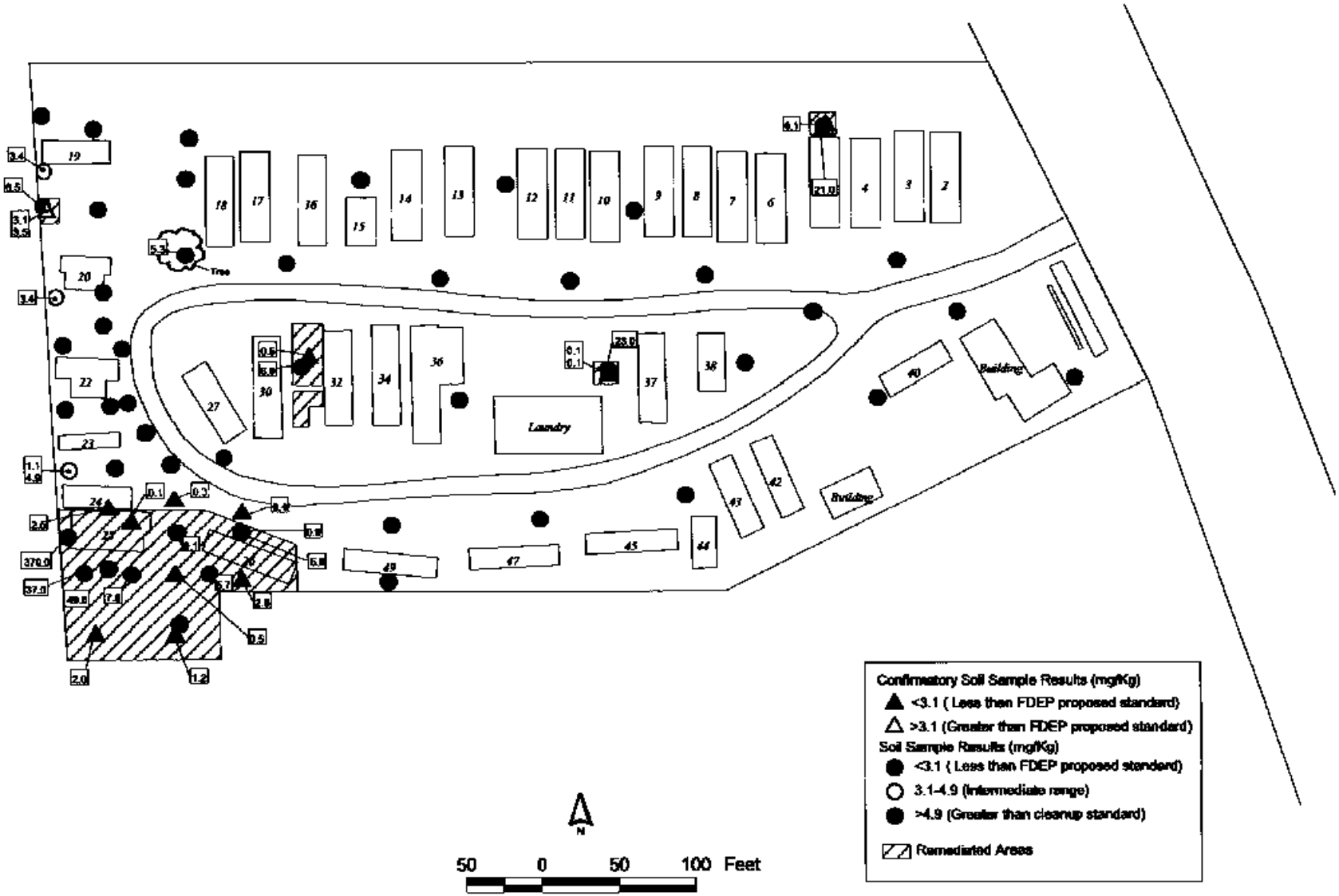
Generation Date: 3/21/03

Figure 3-1. Chevron Orlando, Florida project location map.

Geomega



Generation Date: 3/21/03	Figure 3-2. Basemap of Chevron Orlando, Florida, site boundary, approximate excavation surface, and monitoring well locations.	Geomega

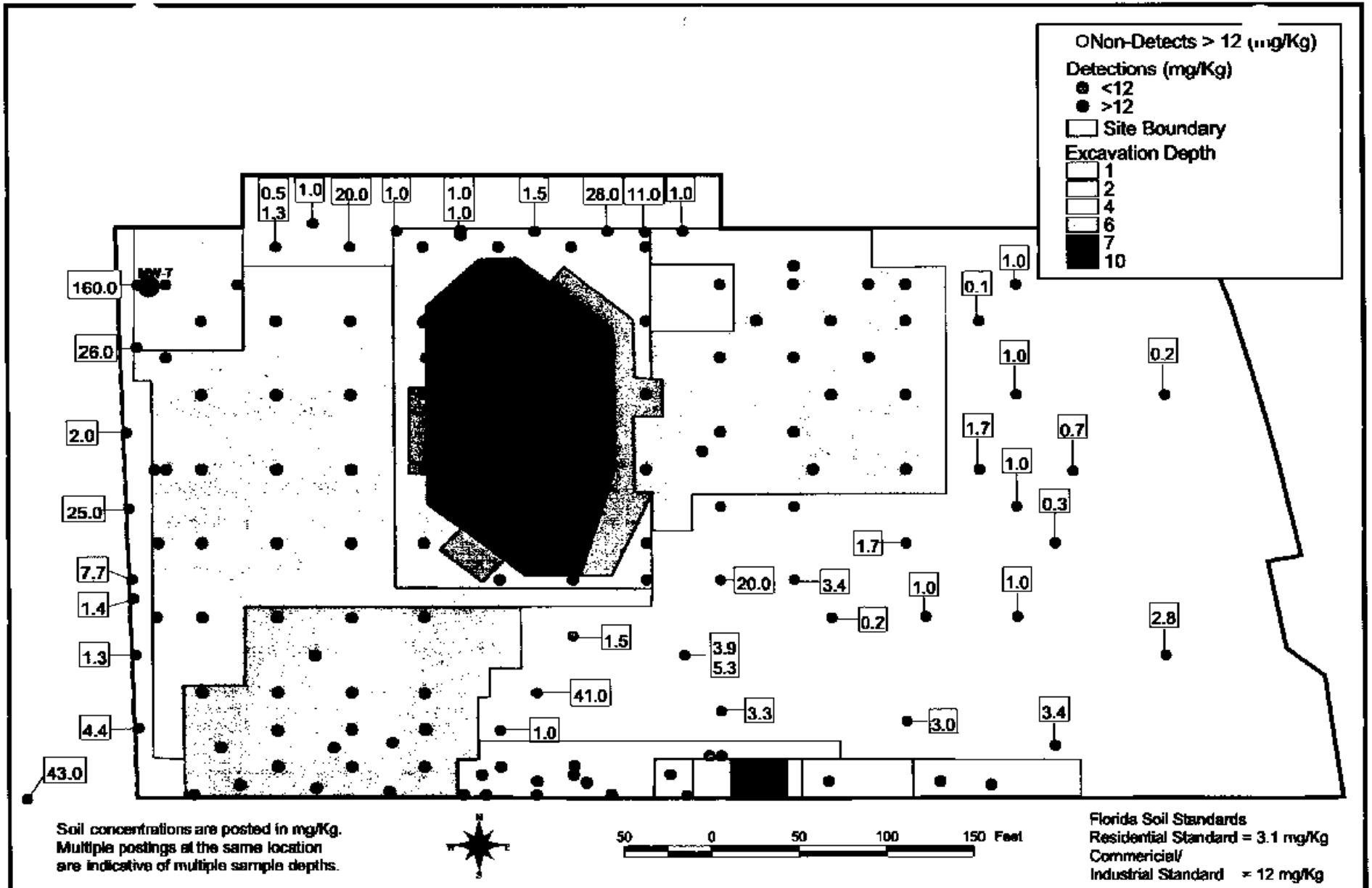


Generation Date: 3/21/03

Figure 3-3. Surface soil chlordane concentrations in Armstrong Trailer Park, Orlando, Florida.

Geomega

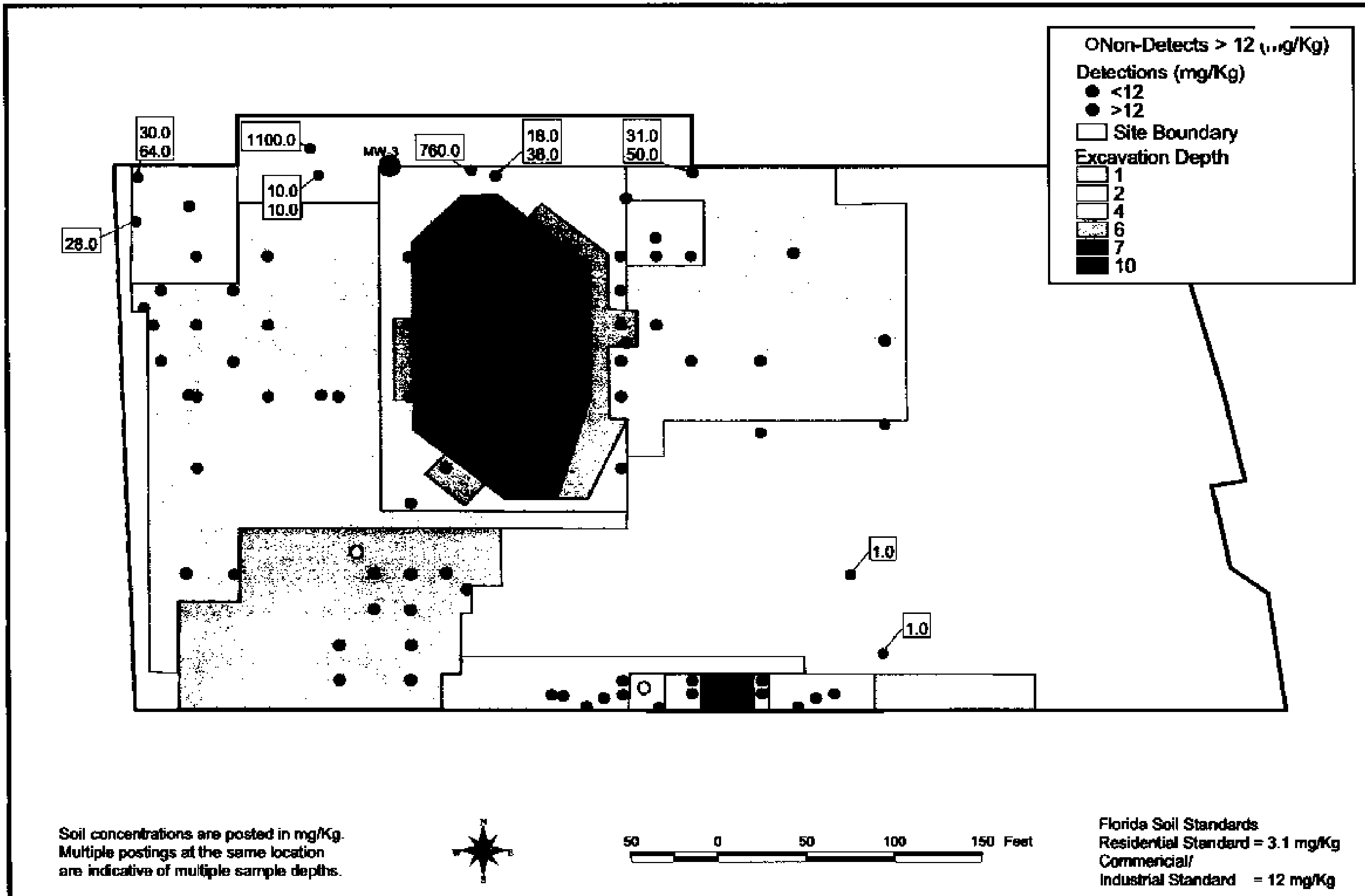
L:\Projects\Chevron\Orlando\orlando_trailerpark.apr Figure 1



Generation Date: 3/21/03

Figure 6-1. Chlordane soil concentrations (depth 0-1 feet).

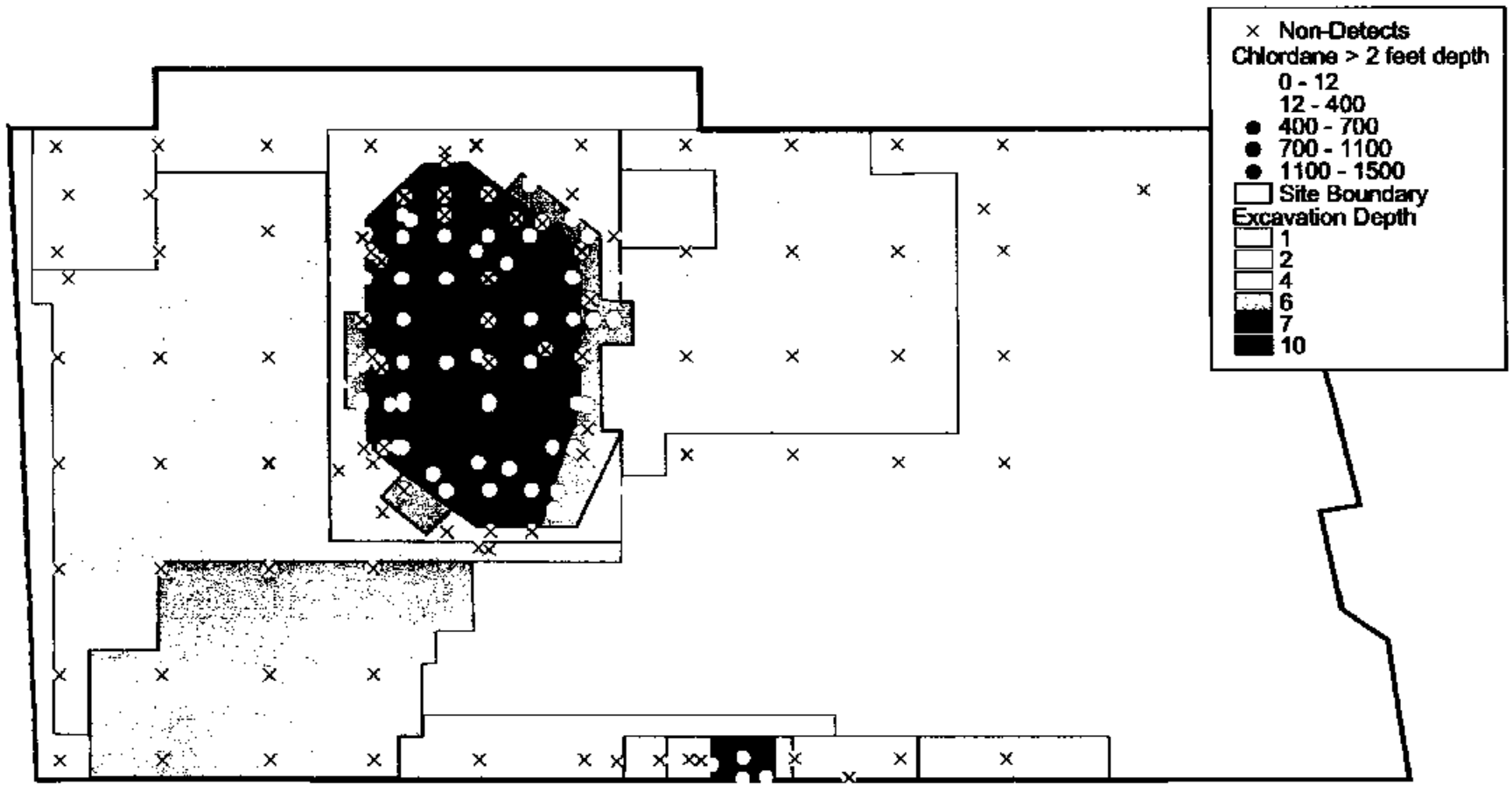
Geomega



Generation Date: 3/21/03

Figure 6-2. Chlordane soil concentrations (depth 1-2 feet)

Geomega



Soil concentrations are posted in mg/Kg. Multiple postings at the same location are indicative of multiple sample depths.

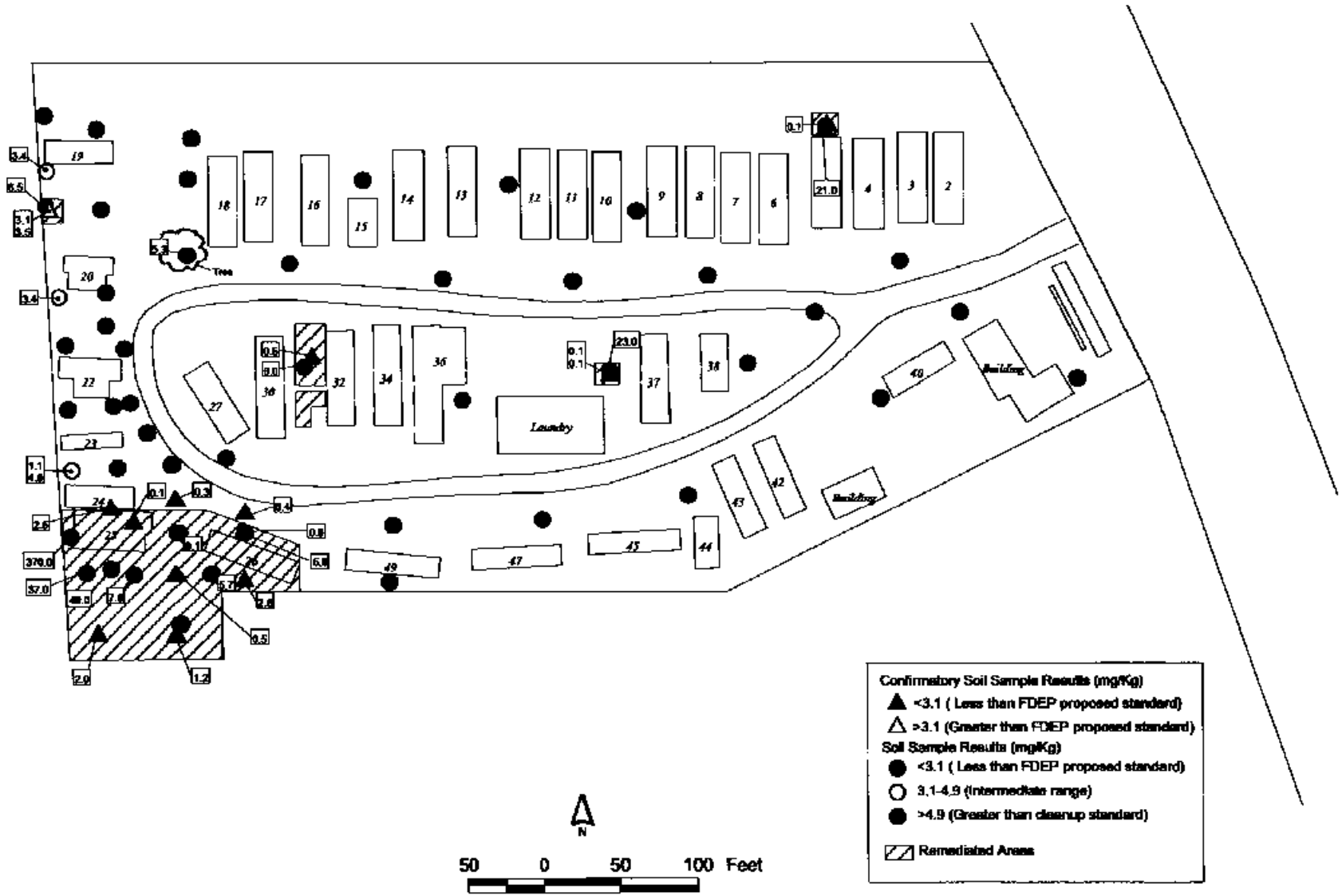
N W E S

50 0 50 100 150 Feet

Florida Soil Standards
Residential Standard = 3.1 mg/Kg
Commericial/
Industrial Standard = 12 mg/Kg

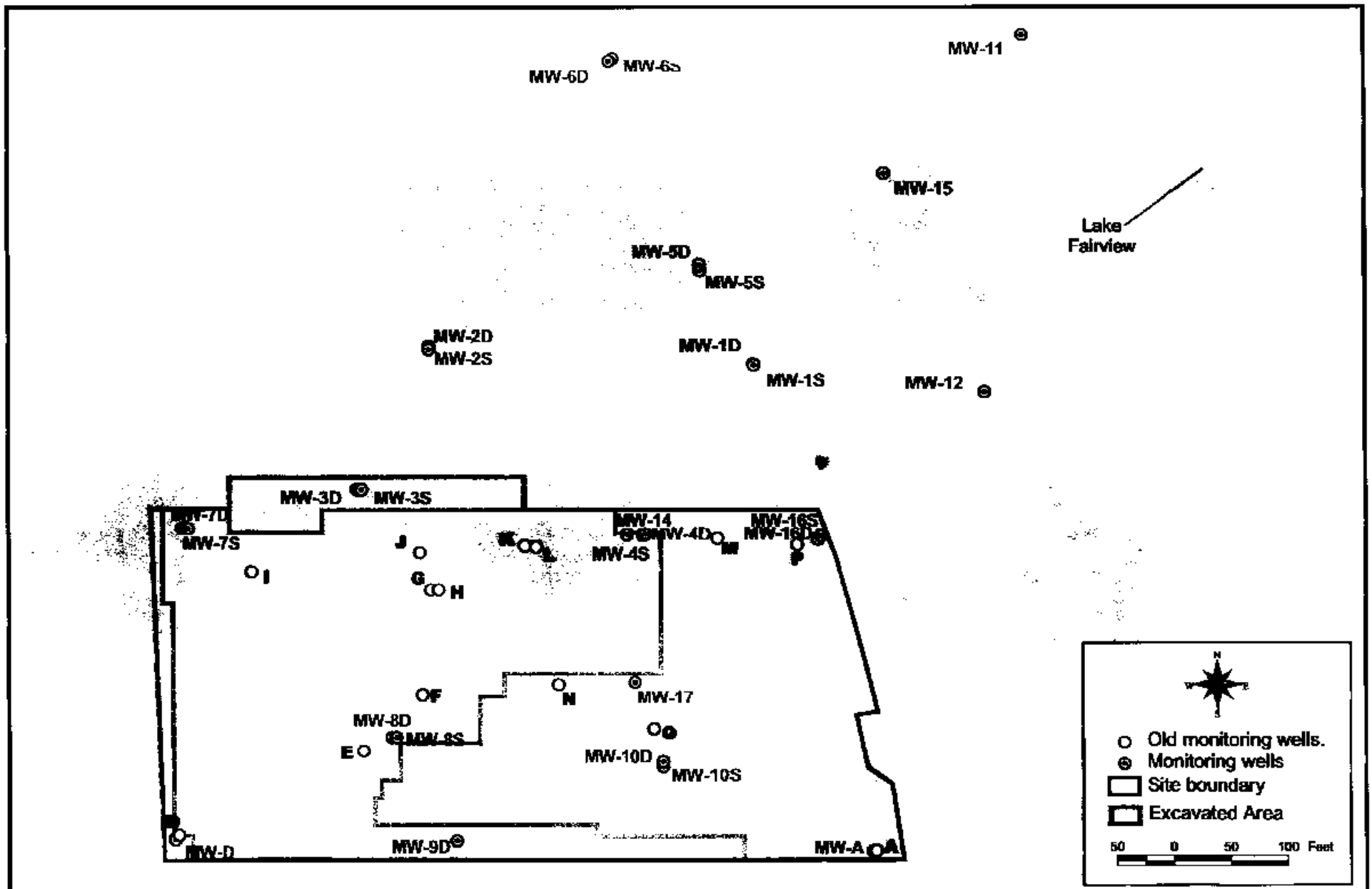
Generation Date: 3/21/03	Figure 6-3. Chlordane soil concentrations (depth > 2 feet).	Geomega

p:\chevron\orlando\yearly\feb\chevronlongis_pdmo_1002.apr: chlordane >2 ft

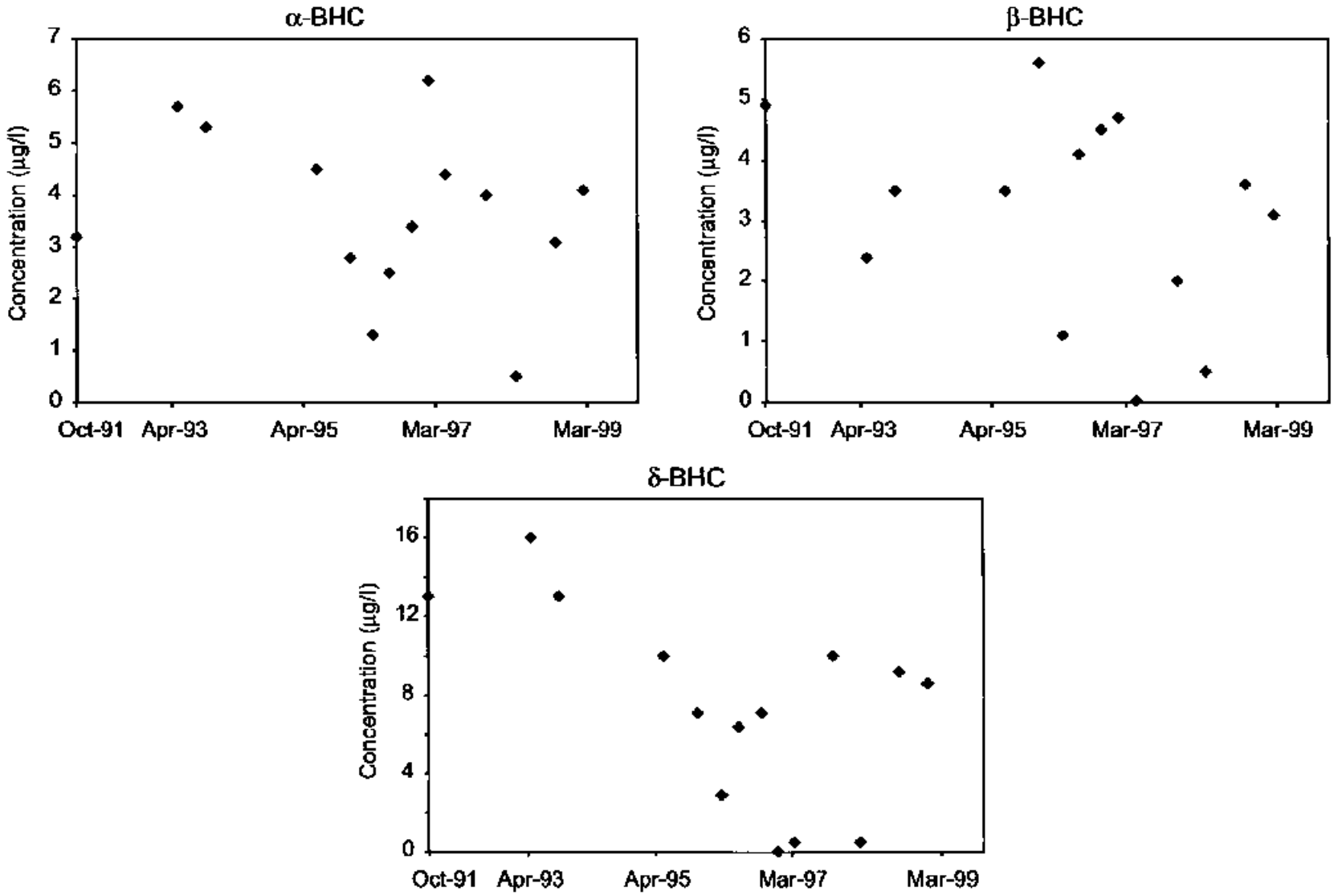


Generation Date: 3/21/03	Figure 6-4. Surface soil chlordane concentrations in Armstrong Trailer Park, Orlando, Florida.	Geomega

L:\Projects\Chemsult\Orlando\orlando_trailerpark.apr Figure 1



Generation Date: 3/21/03	Figure 6-5. Basemap of Chevron Orlando, Florida, site boundary, approximate excavation surface, and monitoring well locations.	Geomega



Generation Date: 3/21/03	Figure 6-6. α-BHC, β-BHC and δ-BHC groundwater concentrations for MW-4D at the Chevron Orlando, Florida site.	Geomega

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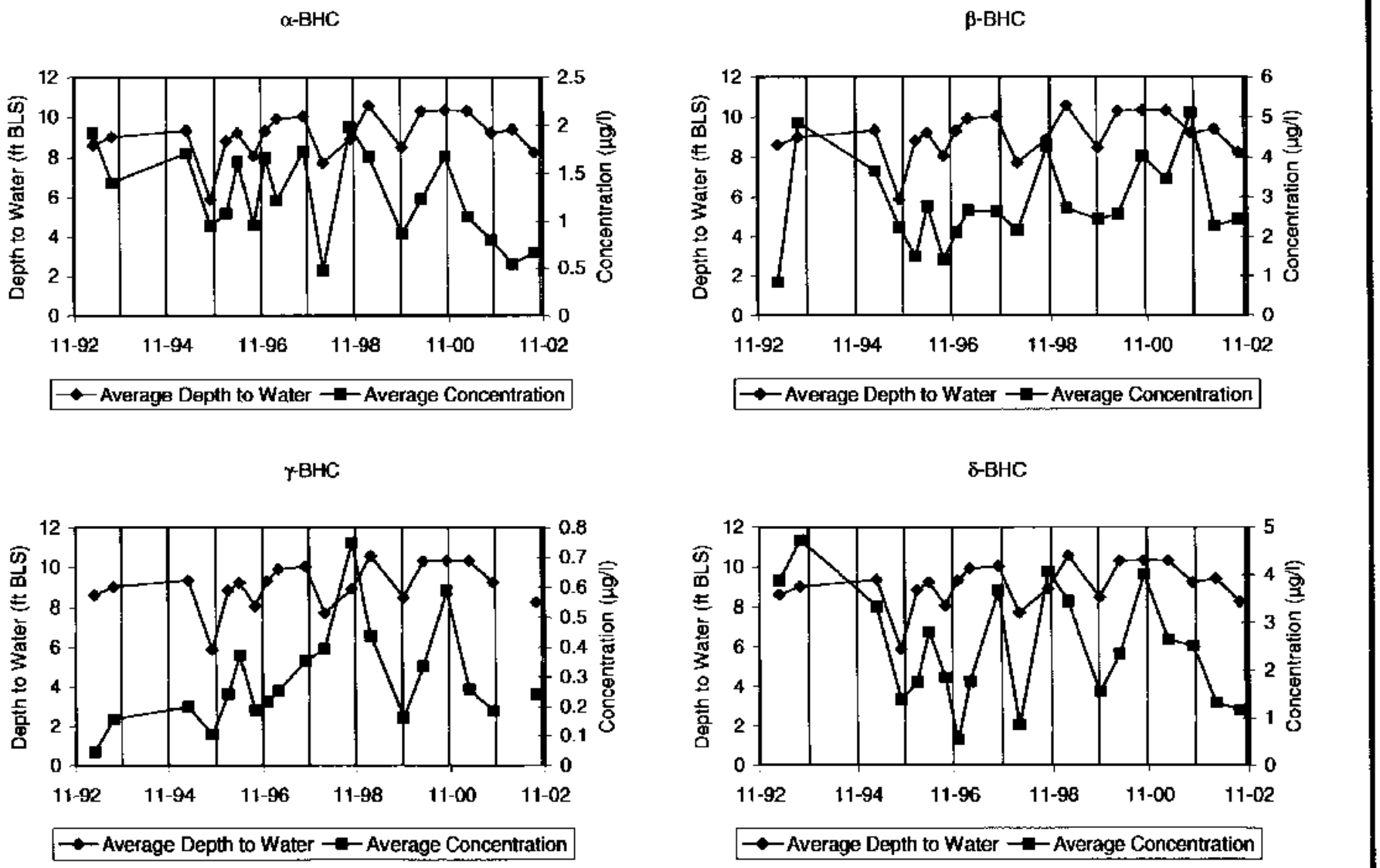

Generation Date: 12/27/02	Figure 6-7. Average depth to water vs. average concentration at Chevron Orlando, Florida.	Geomega

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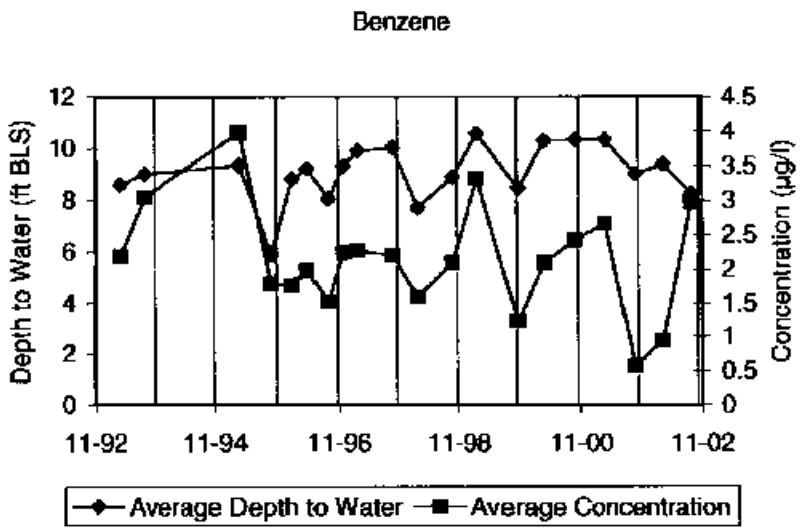

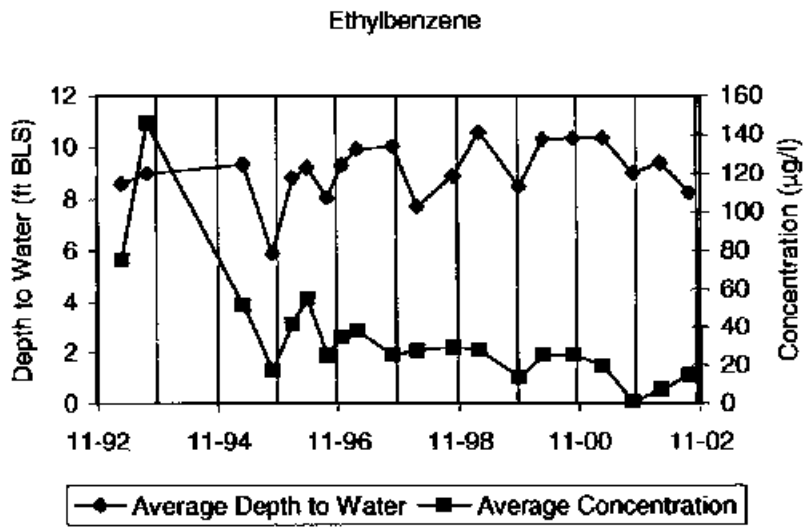

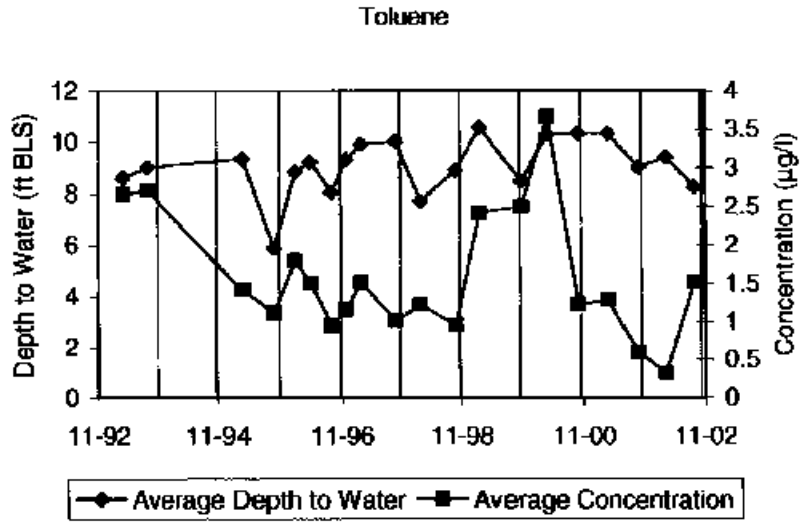

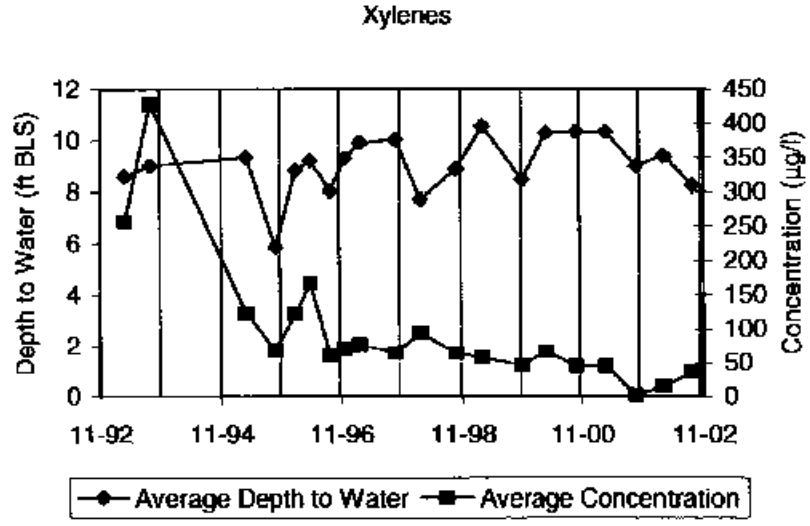

Generation Date: 12/27/02	Figure 6-8. Average depth to water vs. average concentration at Chevron Orlando, Florida.	Geomega

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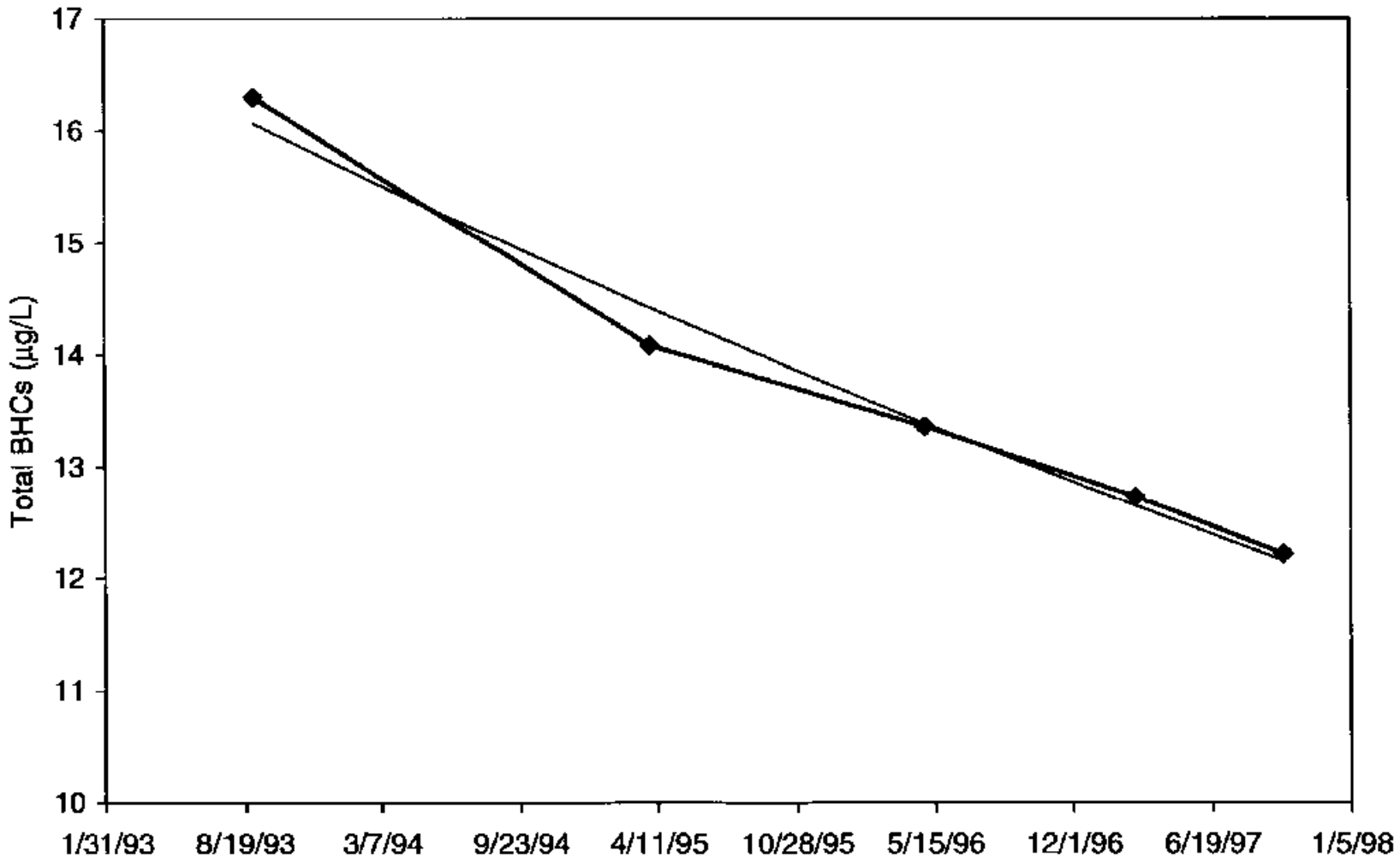

Generation Date: 3/21/03	Figure 6-9. Average total BHC concentrations at consistent water level elevations at the Chevron Orlando, Florida site.	Geomega

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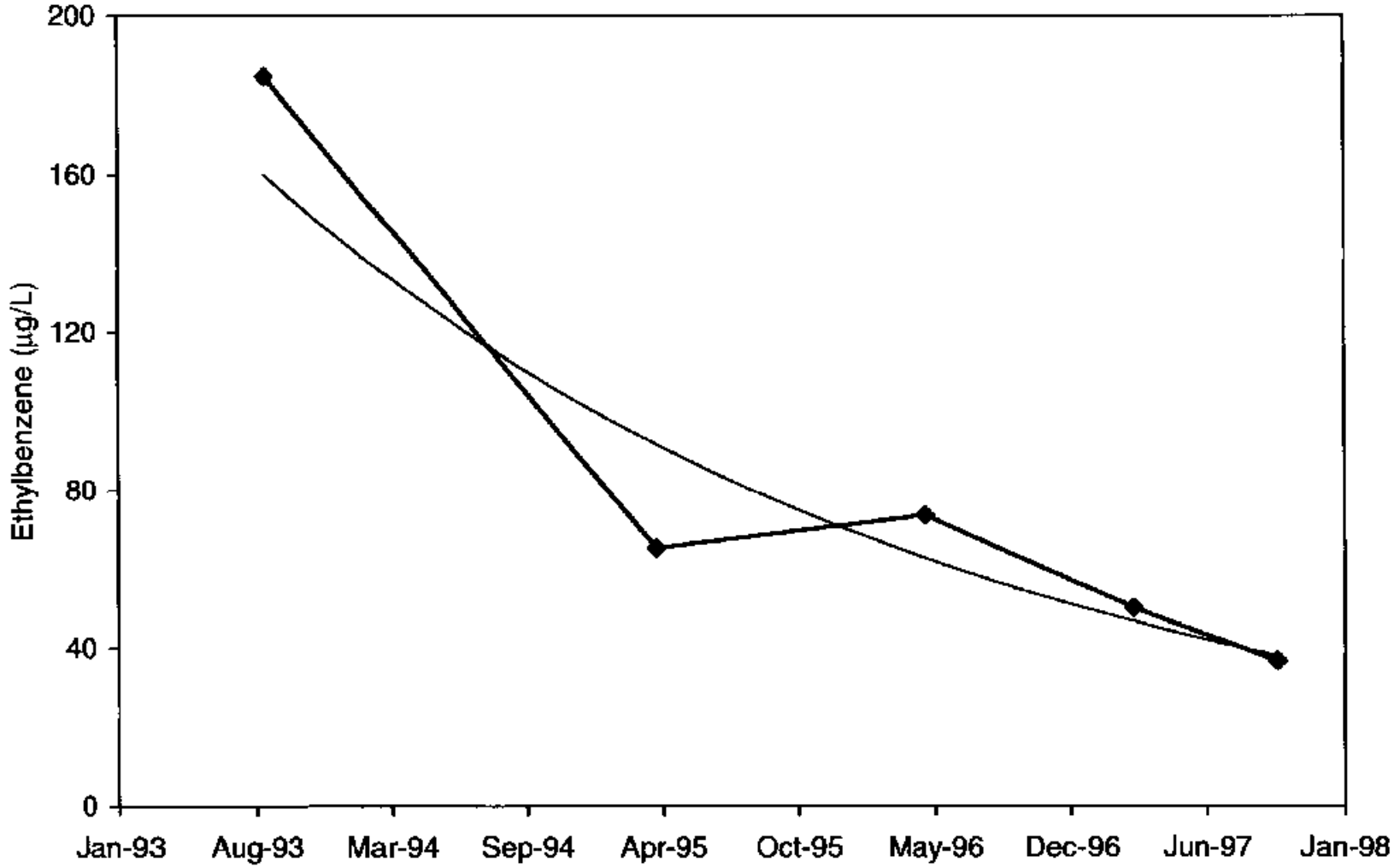

Generation Date: 3/21/03	Figure 6-10. Average ethylbenzene concentrations at consistent water level elevations at the Chevron Orlando, Florida site.	Geomega

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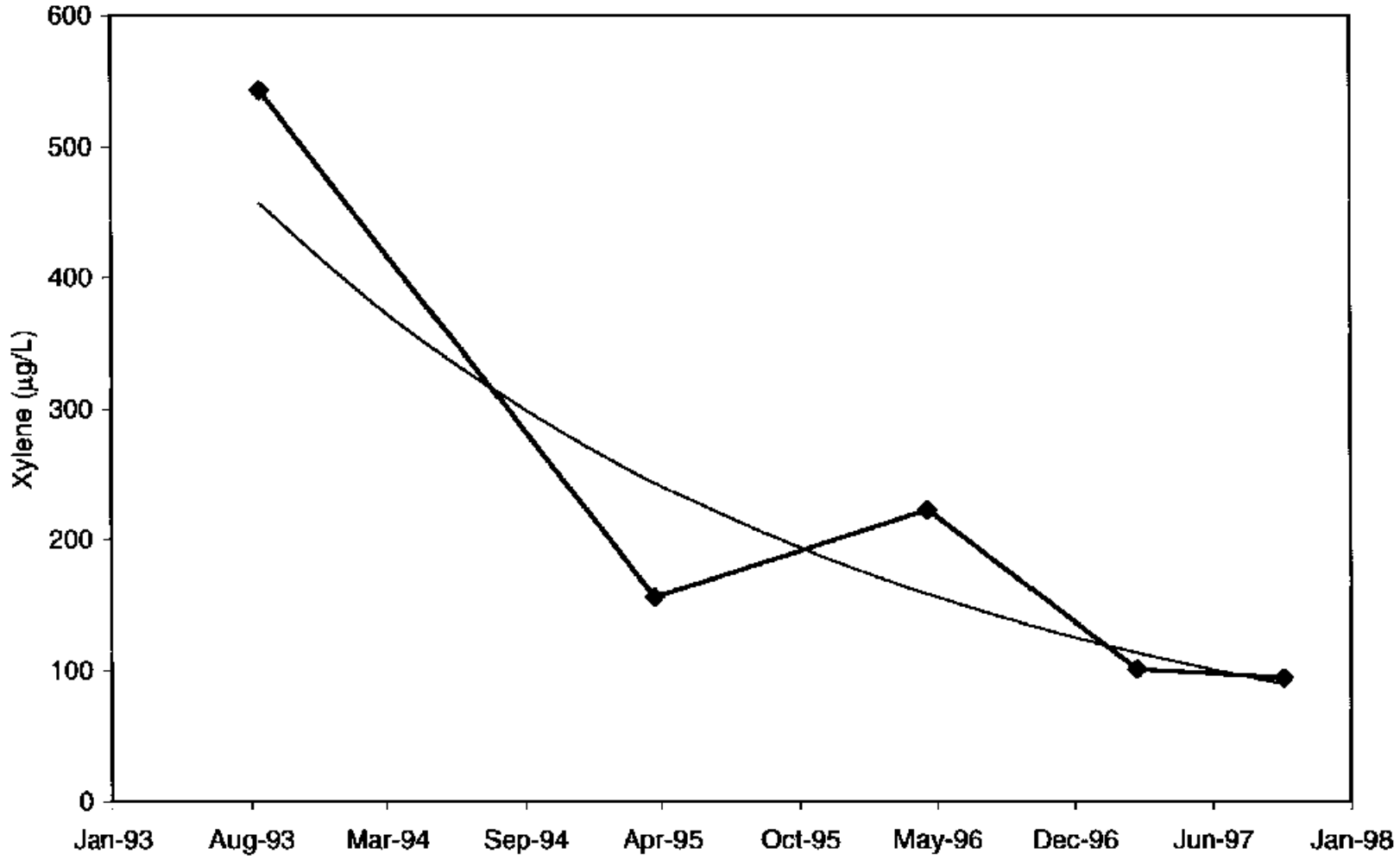

Generation Date: 3/21/03	Figure 6-11. Average xylene concentrations at consistent water level elevations at the Chevron Orlando, Florida site.	Geomega

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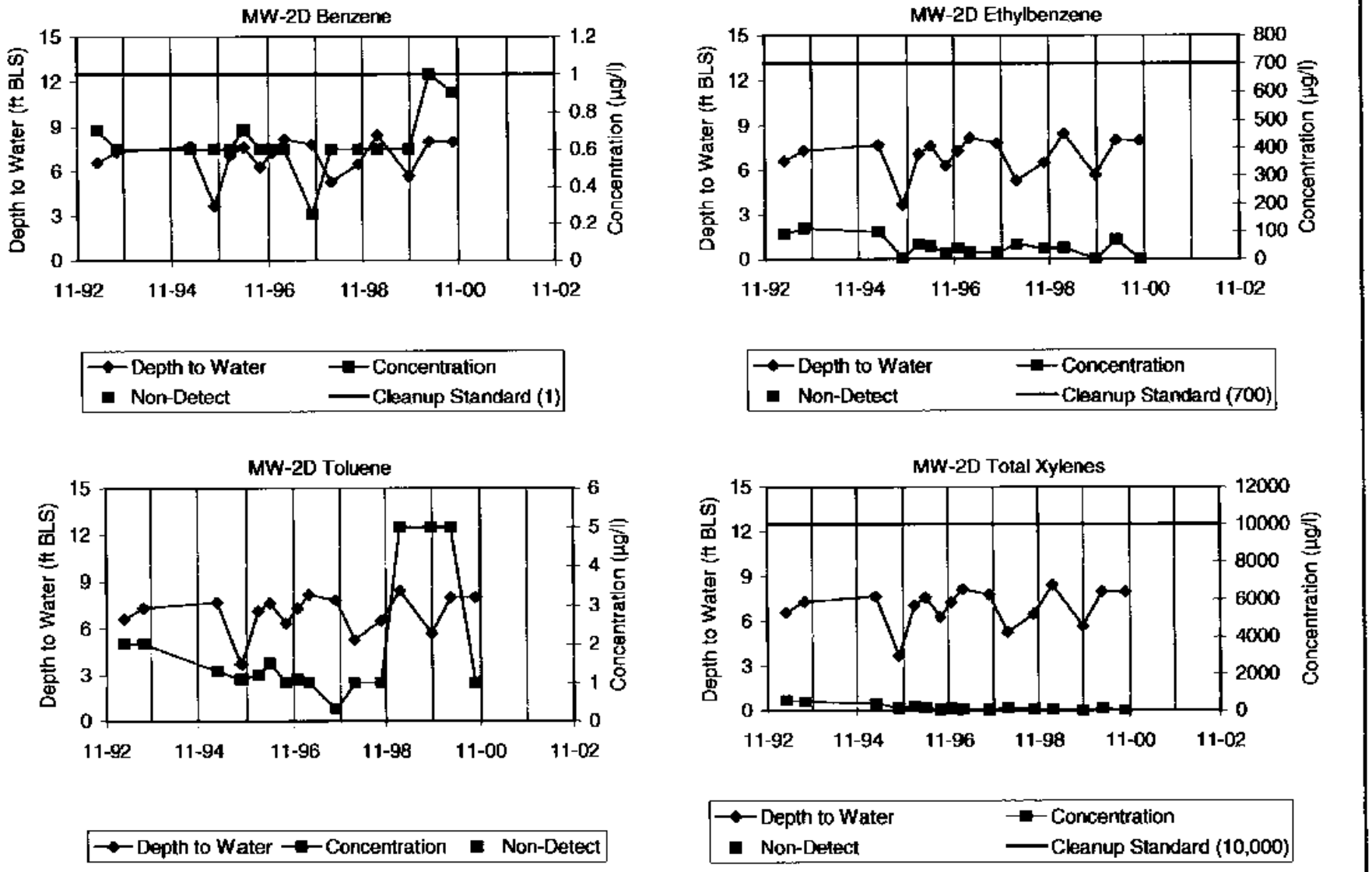

Generation Date: 3/21/03	Figure 6-12a. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

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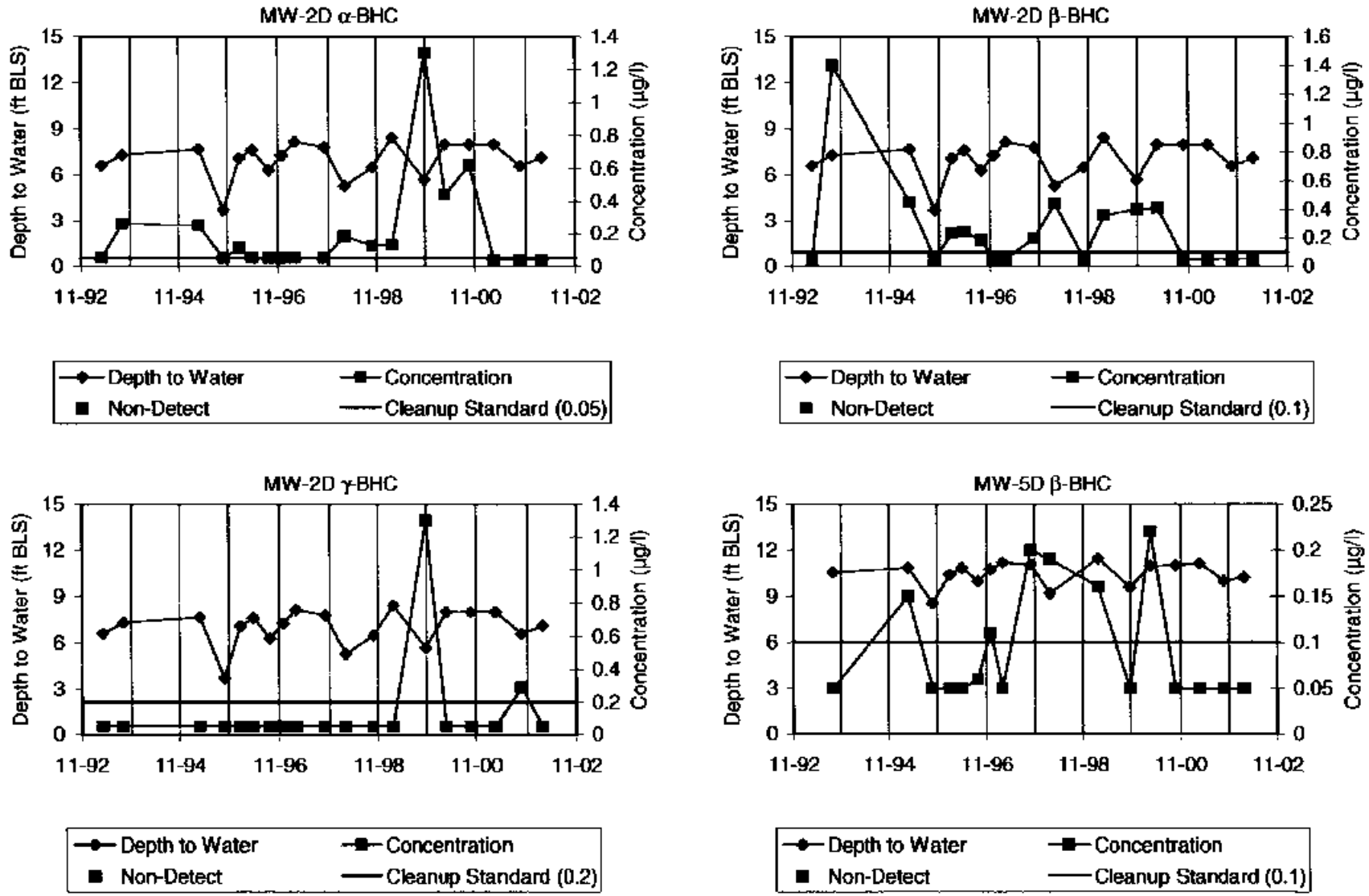

Generation Date: 3/21/03	Figure 6-12b. Temporal BHC trends in MW-2.	Geomega

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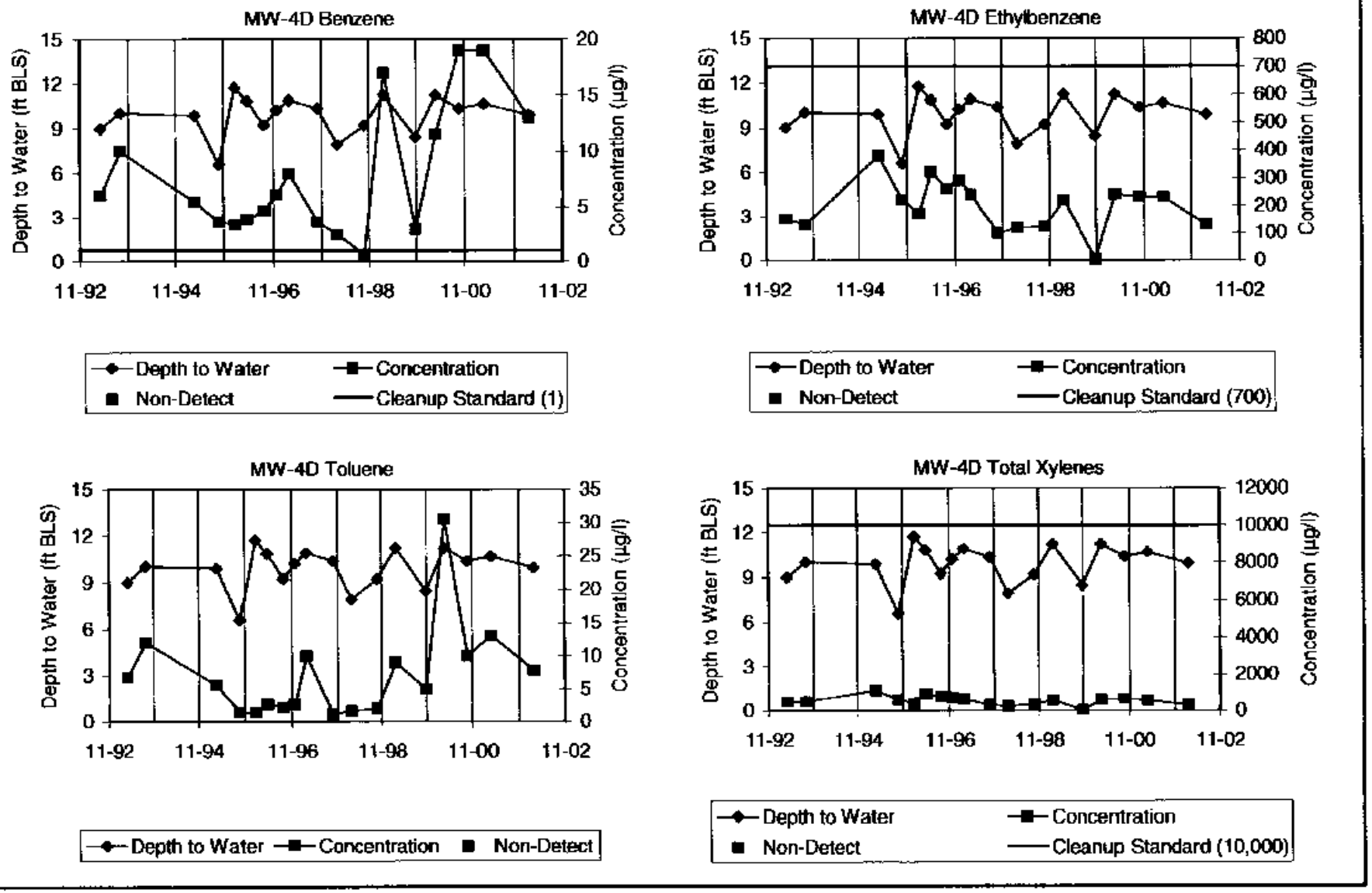

Generation Date: 3/24/03	Figure 6-13a. Depth to water vs. concentration at Chevron Orlando, Florida October 2001.	Geomega

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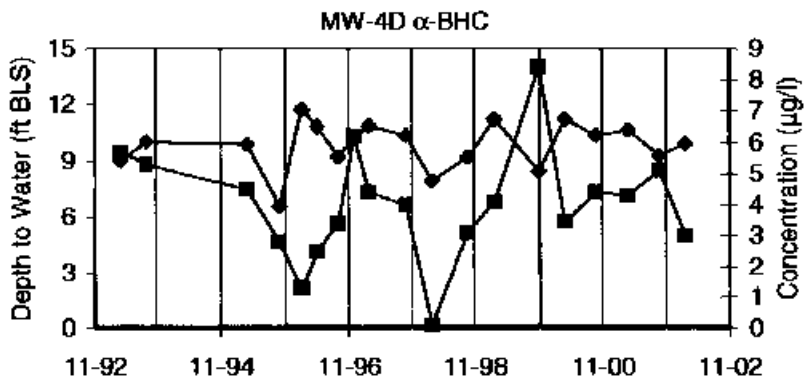

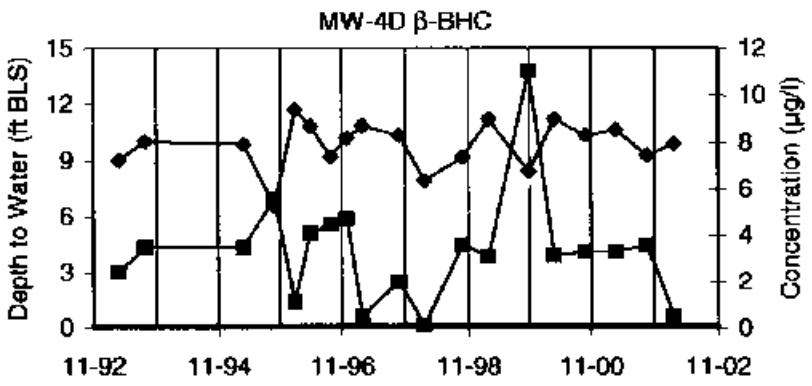

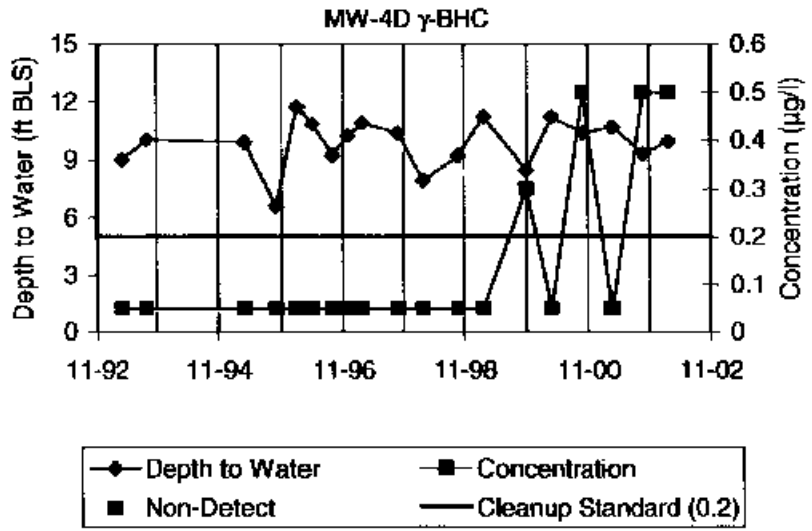

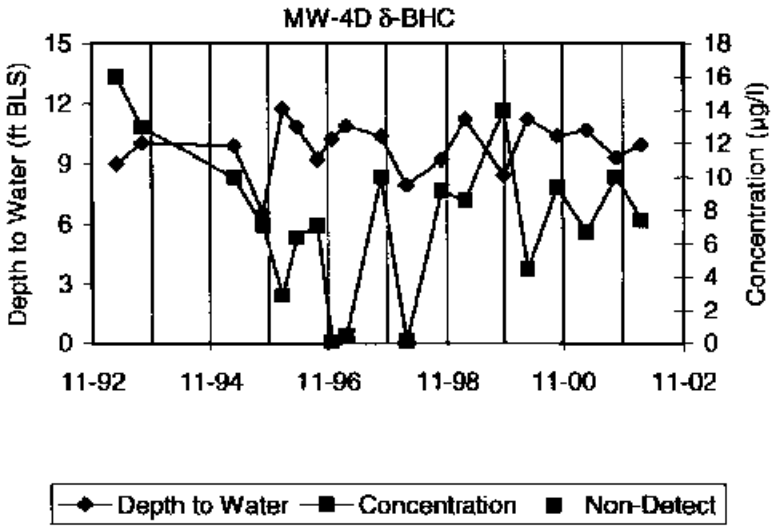

Generation Date: 3/21/03	Figure 6-13b. Depth to water vs. concentration at Chevron Orlando, Florida October 2001.	Geomega

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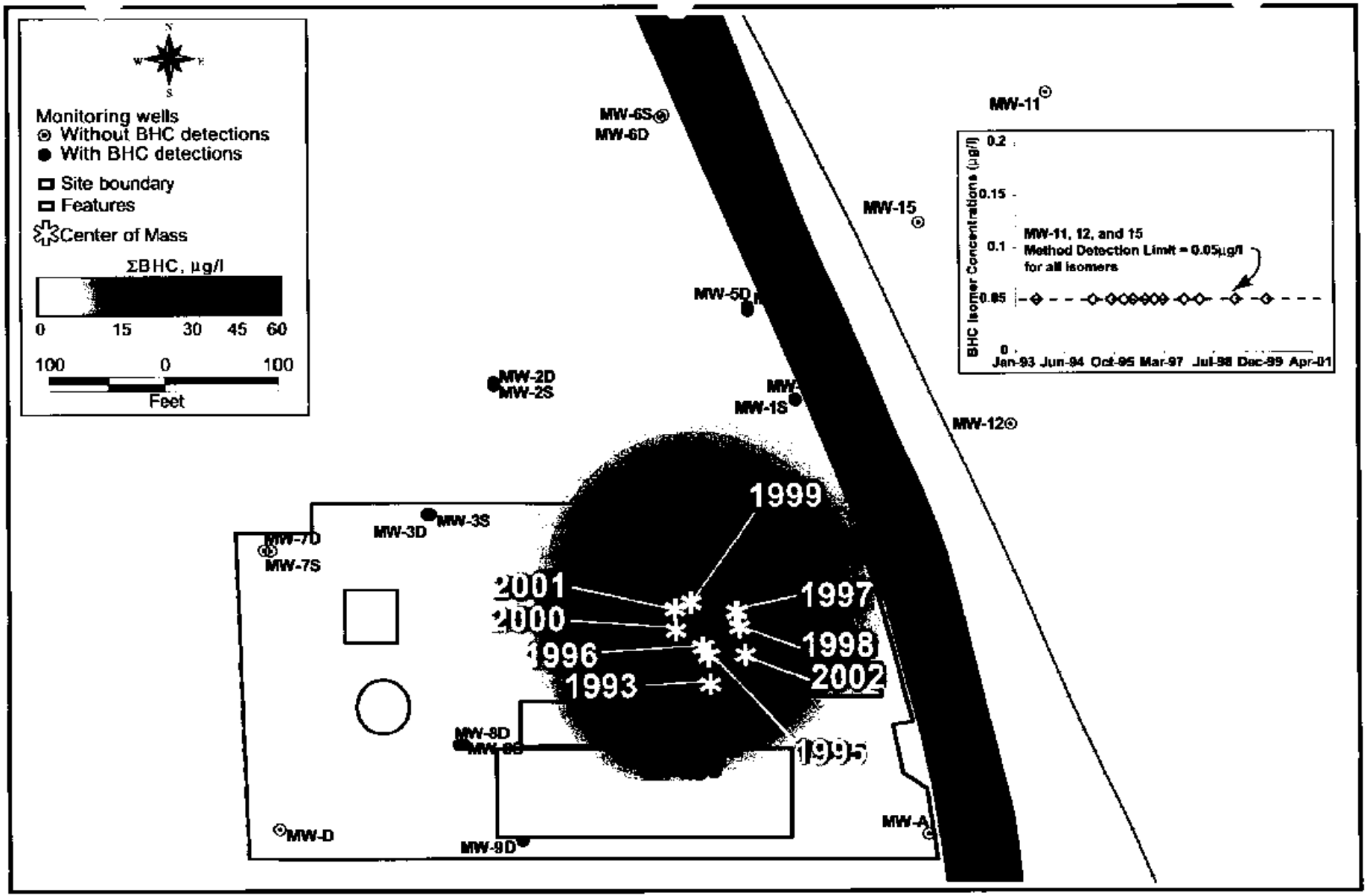

Generation Date: 3/21/03	Figure 6-14. Spatial distribution of total BHCs in groundwater, Chevron Orlando.	Geomega

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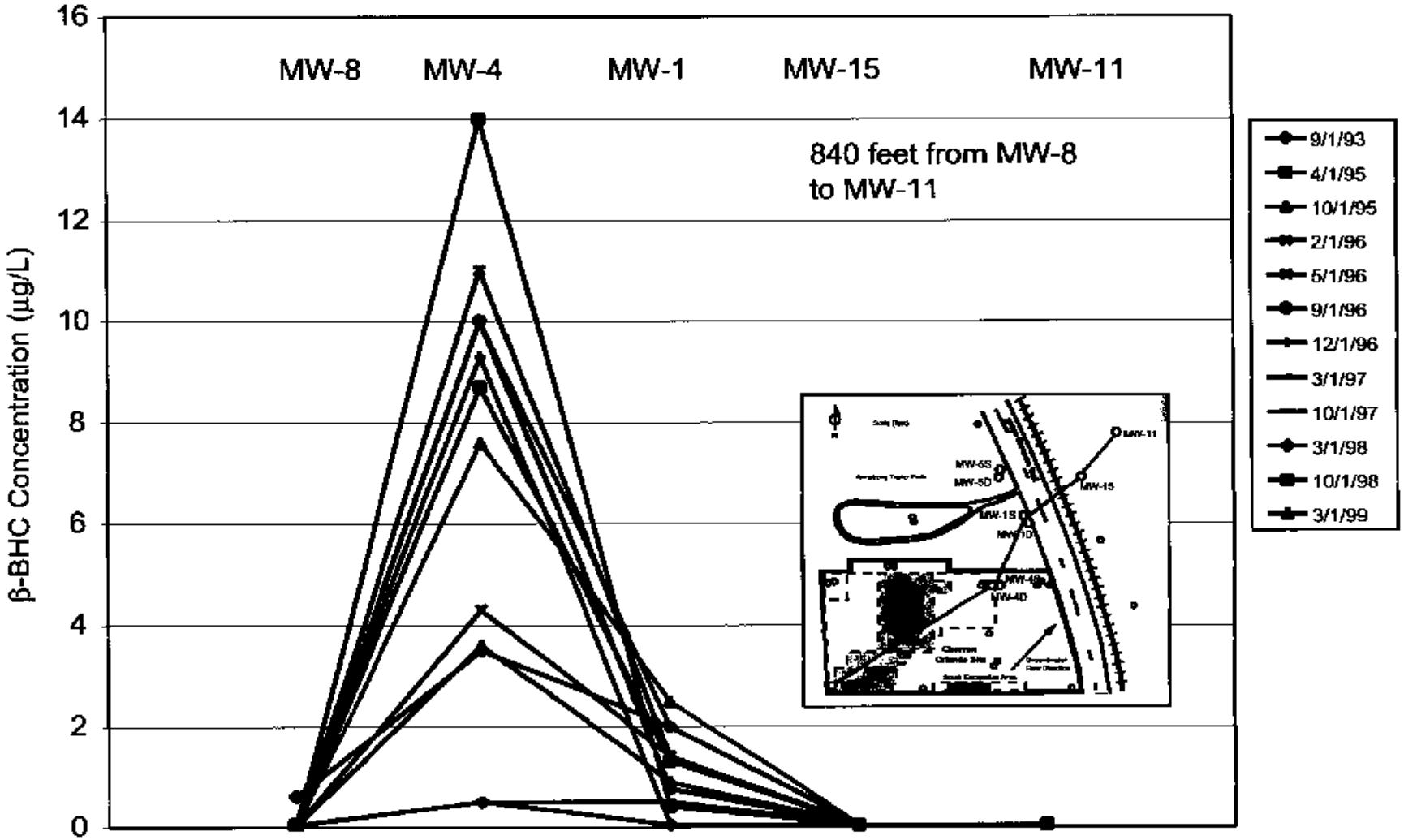

Generation Date: 3/21/013	Figure 6-15. β-BHC cross-sectional groundwater concentrations at the Chevron Orlando, Florida site.	Geomega

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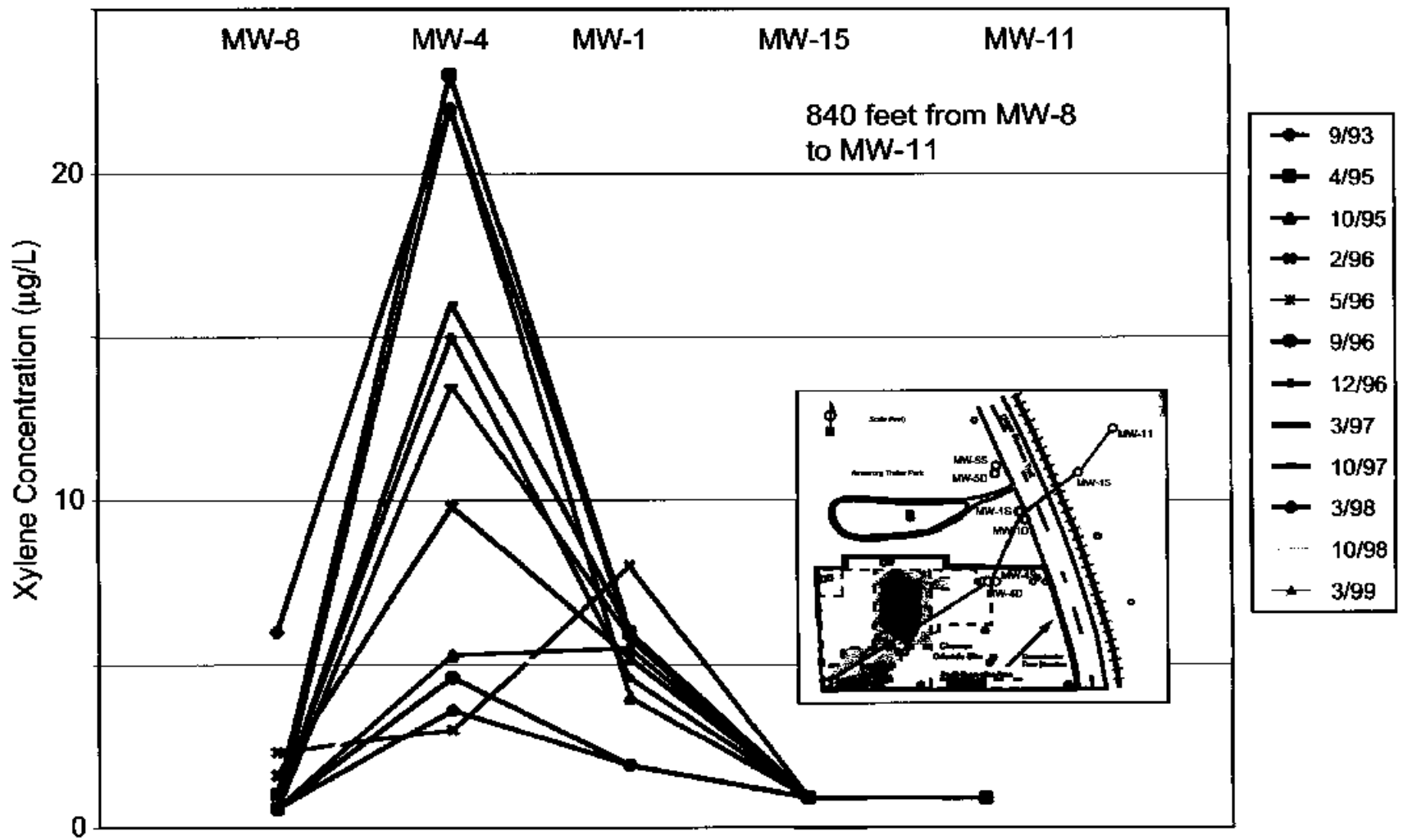
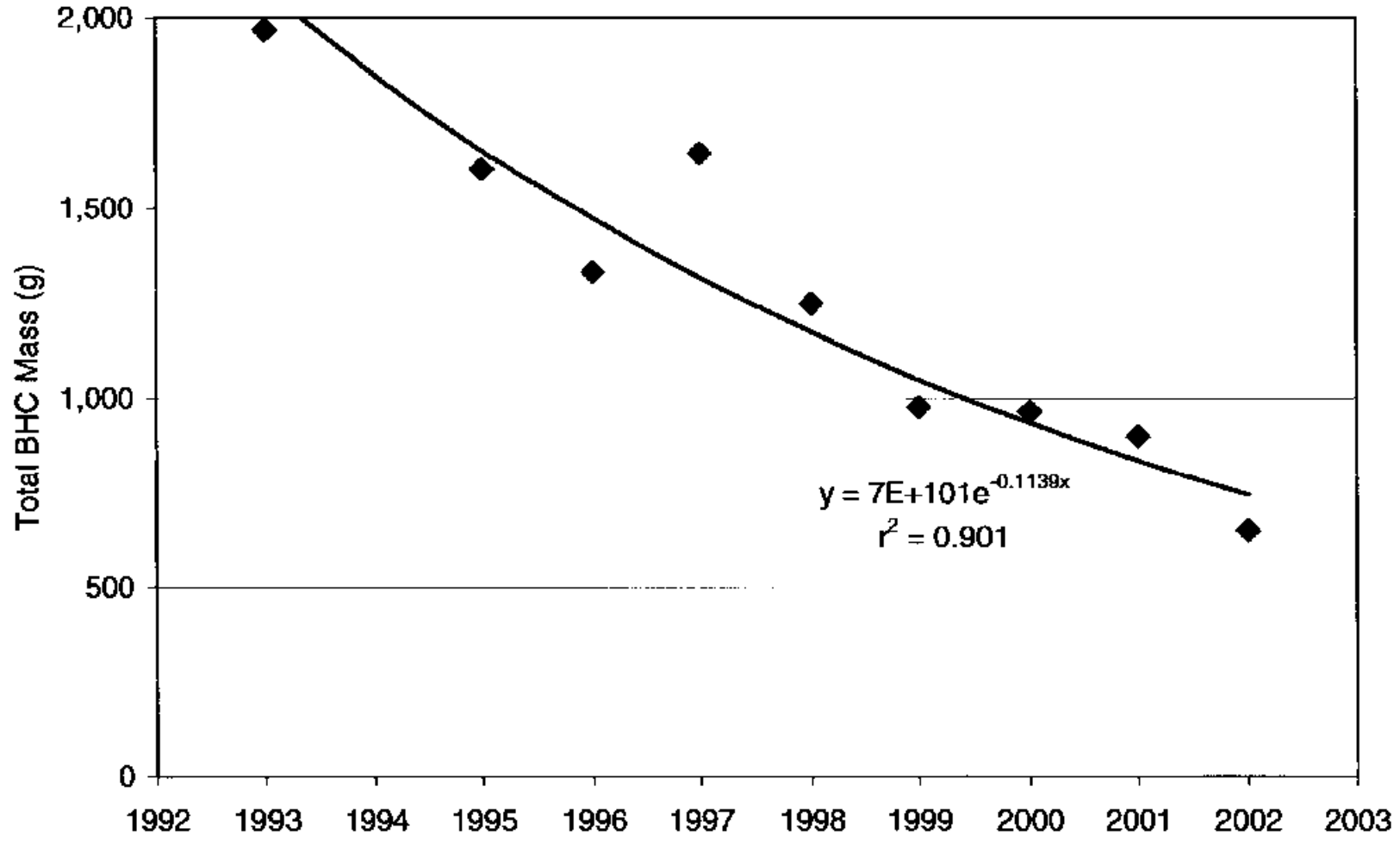


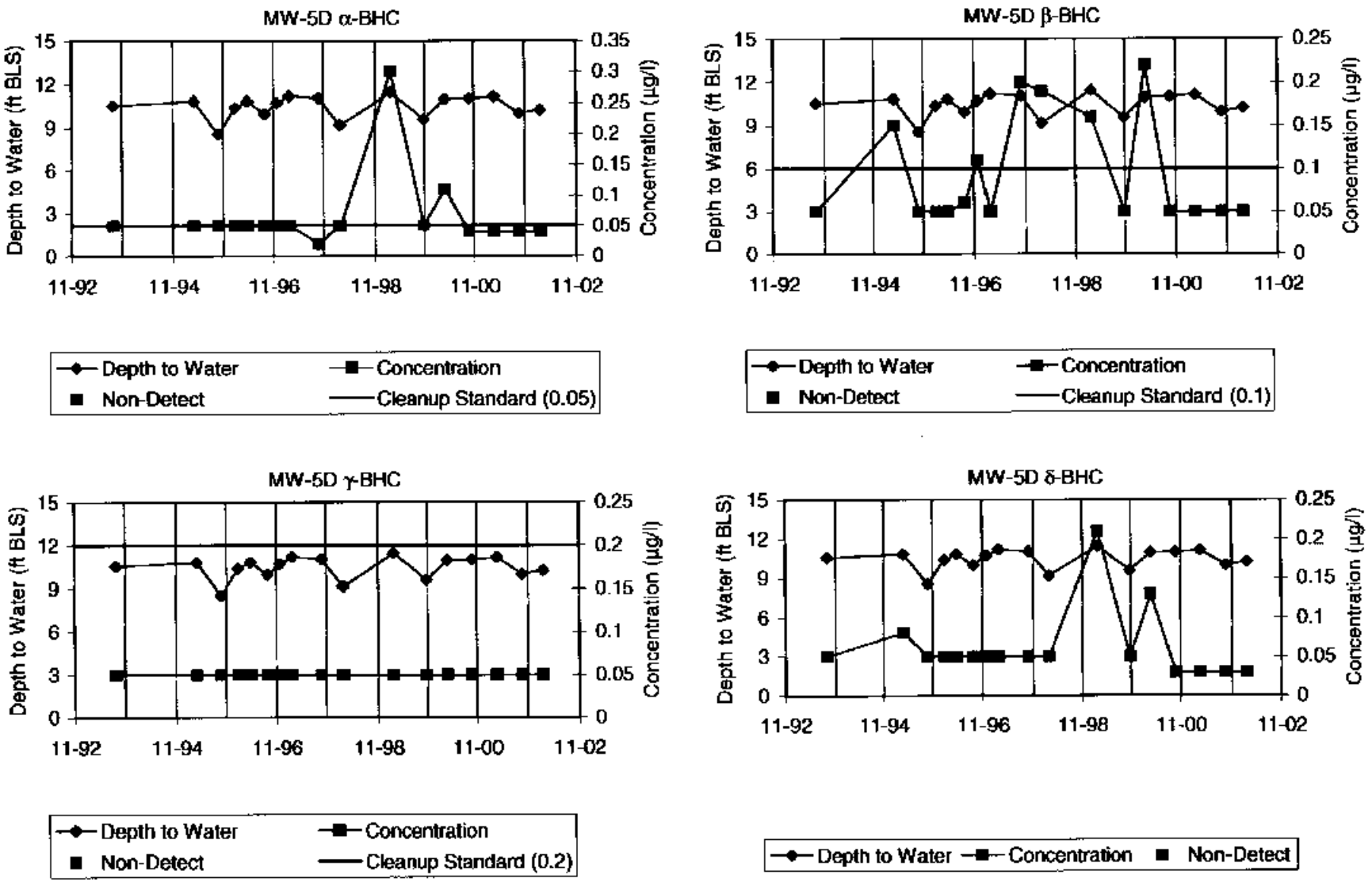
Generation Date: 3/21/03	Figure 6-16. Xylene cross-sectional groundwater concentrations at the Chevron Orlando, Florida site.	Geomega

o:\Chevron\Orlando\Five-Year Review\xsectionxylene.ai



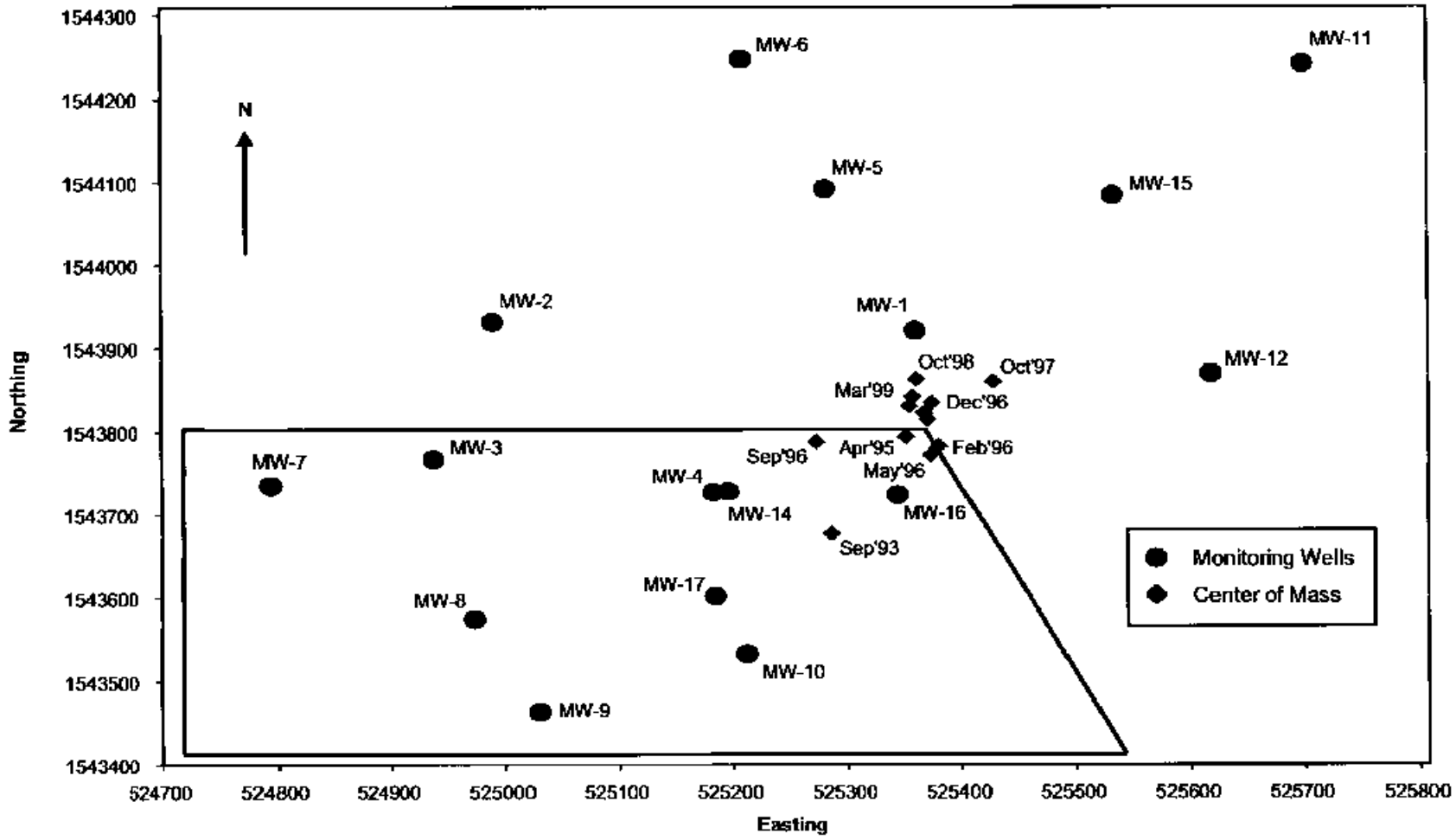
Generation Date: 3/21/03	Figure 6-17. Total BHC mass in Chevron Orlando Florida site groundwater.	Geomega

O:\Chevron\Orlando\Five-Year Review\BHC total mass 2002 update.xls



Generation Date: 3/21/03	Figure 6-18. Depth to water vs. concentration at Chevron Orlando, Florida October 2001.	Geomega

O:\Chevron\Orlando\Five-Year Review\Figure 6-1_Final.xls



Generation Date: 3/21/03	Figure 6-19. Center of mass of xylene in groundwater at the Chevron Orlando, Florida site.	Geomega

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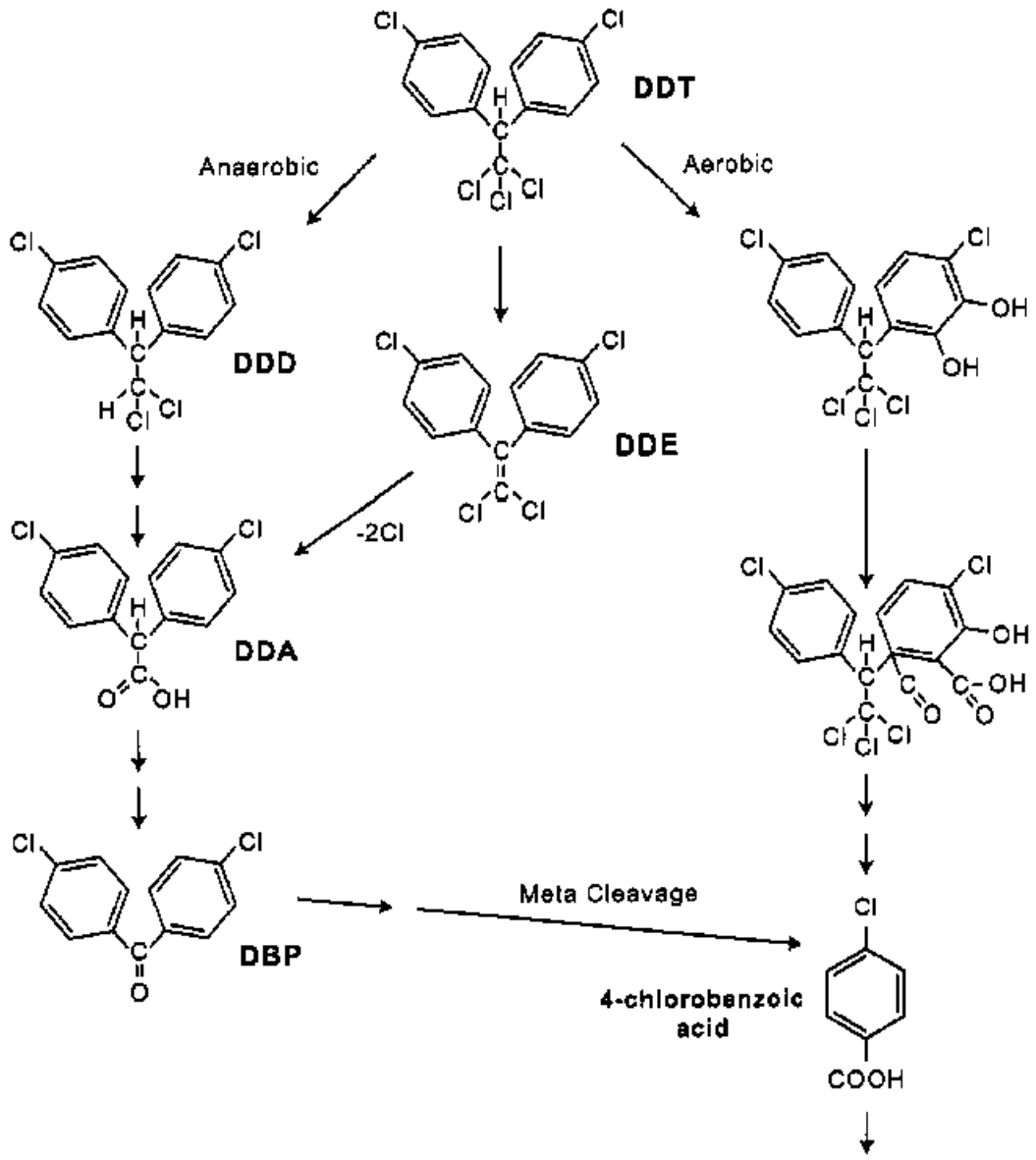


DDT; 1,1,1-trichloro-2,2-bis(*p*-chlorophenyl)ethane.
DDD; 1,1-dichloro-2, 2-bis(*p*-chlorophenyl)ethane.
DDE; 1,1-bis(*p*-chlorophenyl)-2-dichloroethene.
DDA; bis(*p*-chlorophenyl) acetic acid.
DBP, *p-p'*-dichlorobenzophenone.

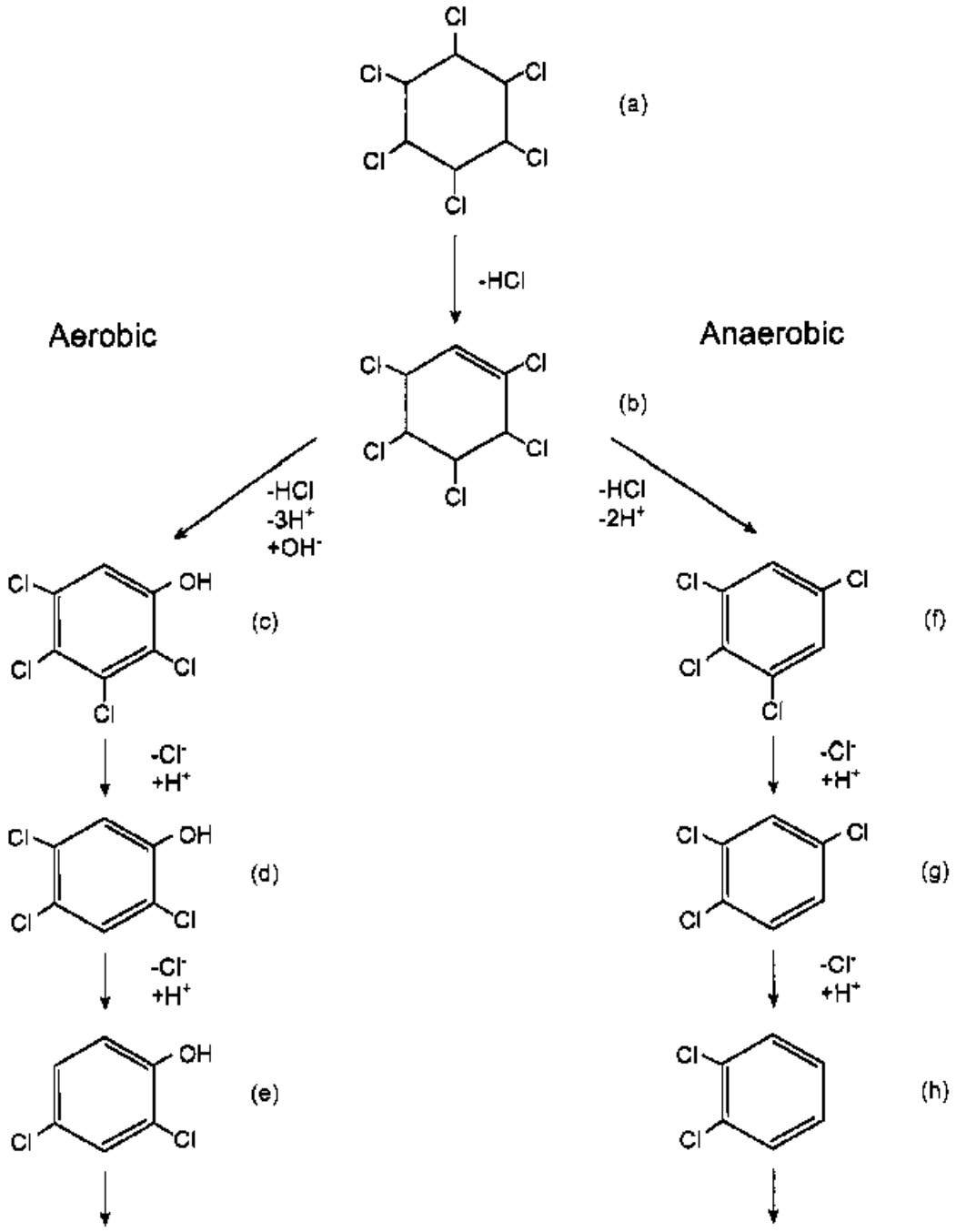
[1] TCA is the tricarboxylic acid cycle.

* Daughter products in blue have been analyzed as part of the monitored natural attenuation program.

After Aislabie & Lloyd-Jones 1995.

Generation Date: 3/21/03	Figure 6-20. Bacterial degradation pathways for DDT.	Geomega

g:\Chevron\Orlando\Five-Year Review\DDT.ai

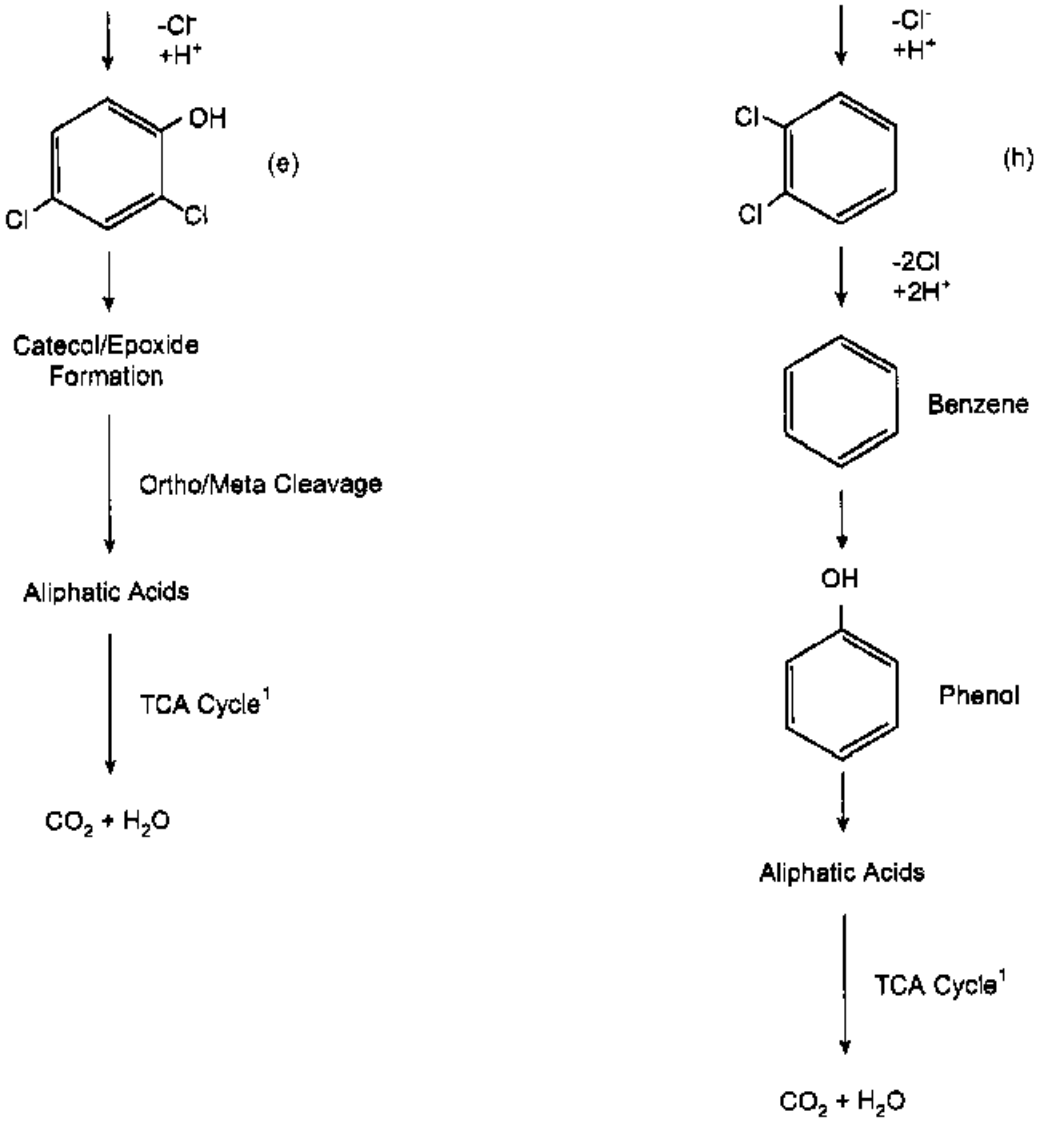


(a) BHC; (b) Pentachlorocyclohexene; (c) Tetrachlorophenol; (d) Trichlorophenol; (e) Dichlorophenol; (f) Tetrachlorobenzene; (g) Trichlorobenzene; and (h) Dichlorobenzene.

* Daughter products in blue have been analyzed as part of the monitored natural attenuation program.

Generation Date: 3/21/03	Figure 6-21a. Generalized BHC degradation pathways.	Geomega

o:\Chevron\Orlando\Five-Year Review\BHC.ai



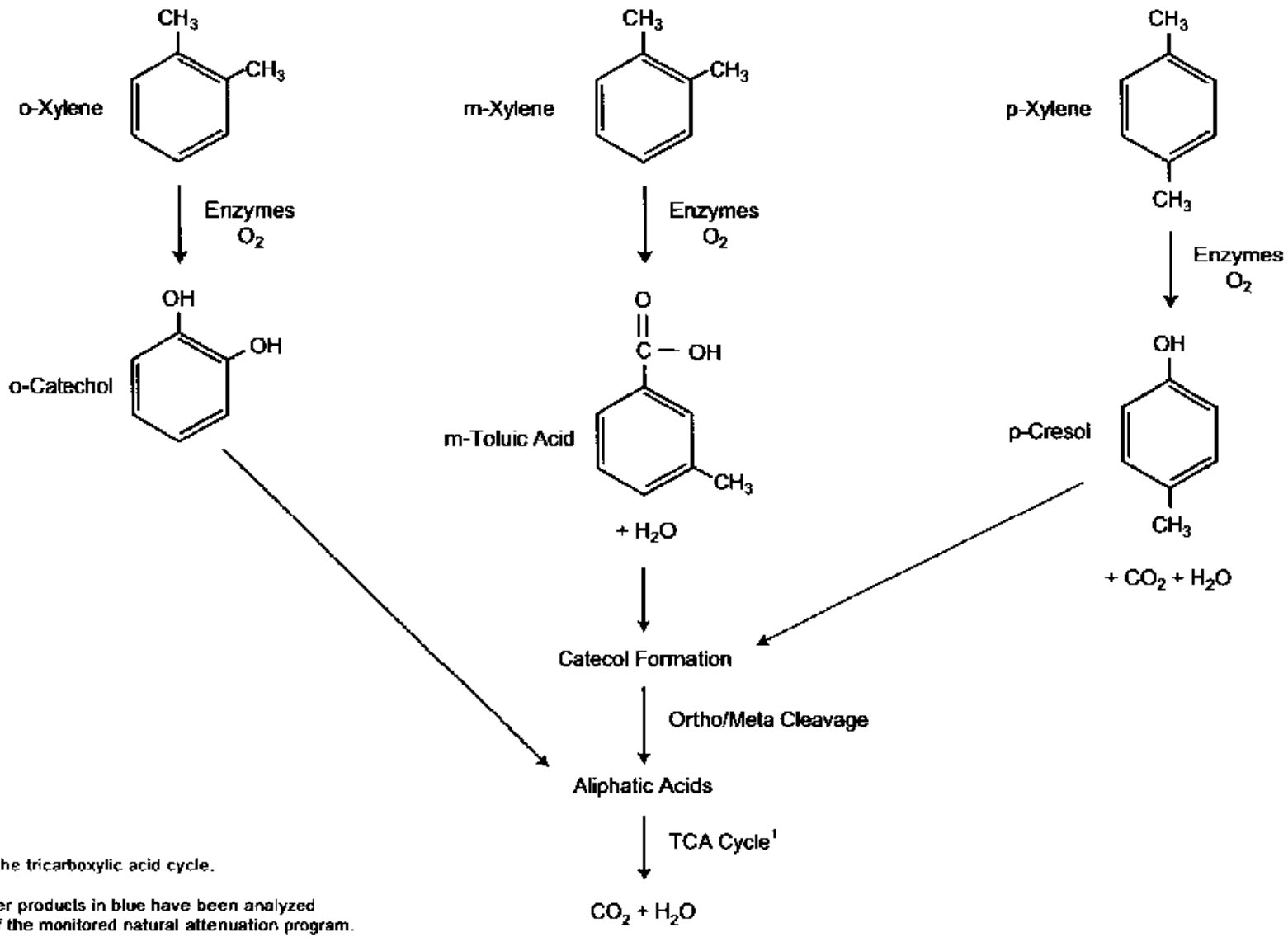
(a) BHC; (b) Pentachlorocyclohexene; (c) Tetrachlorophenol; (d) Trichlorophenol; (e) Dichlorophenol; (f) Tetrachlorobenzene; (g) Trichlorobenzene; and (h) Dichlorobenzene.

[1] TCA is the tricarboxylic acid cycle.

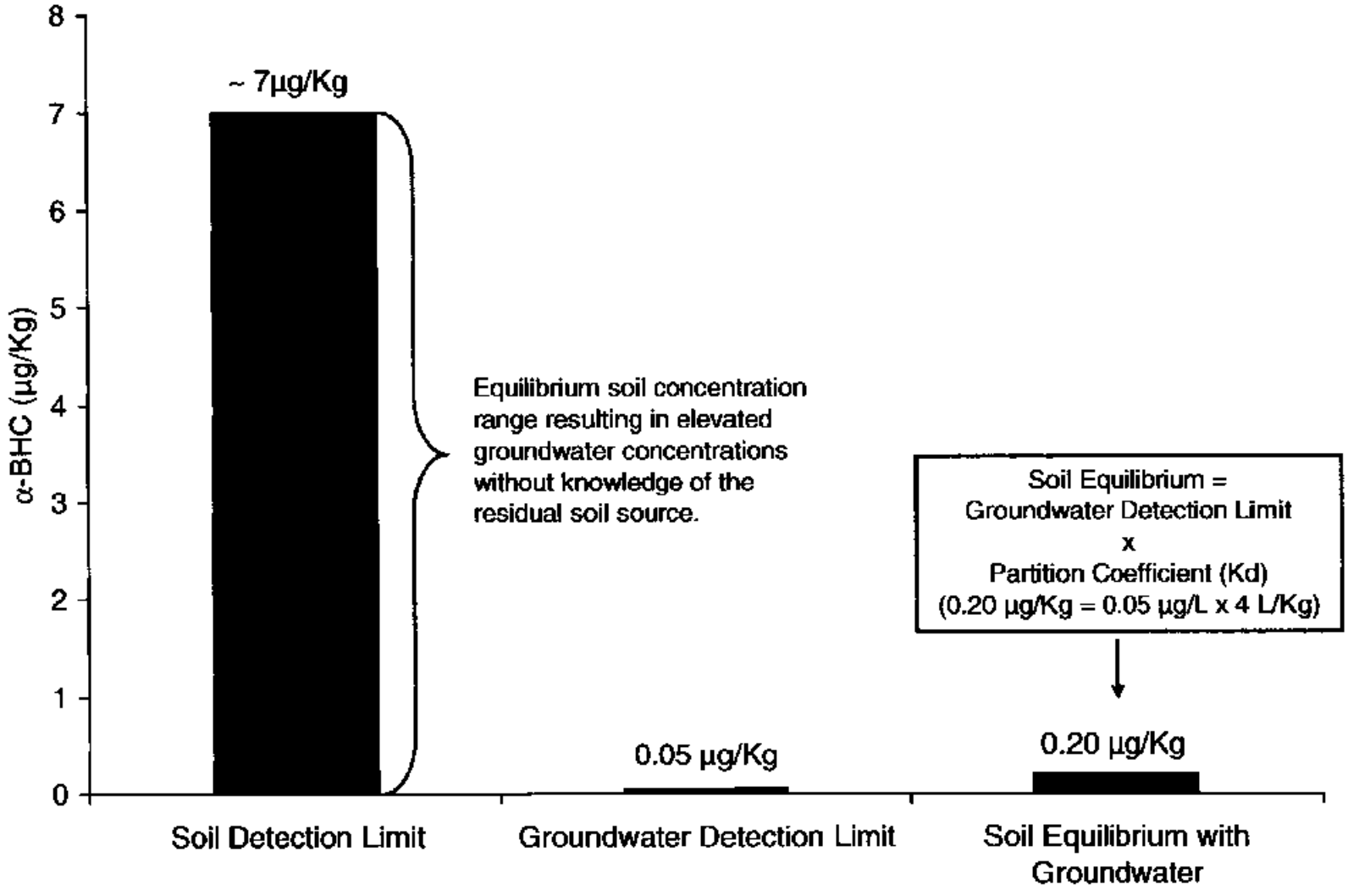
* Daughter products in blue have been analyzed as part of the monitored natural attenuation program.

Generation Date: 3/21/03	Figure 6-21b. Generalized BHC degradation pathways.	Geomega

o:\Chevron\Orlando\Five-Year Review\BHC-2.ai



Generation Date: 3/21/03	Figure 6-22. Generalized xylene degradation pathways.	Geomega



Generation Date: 3/21/03	Figure 8-1. Soil and groundwater method detection limits vs. numerical clean-up standards for α-BHC in equilibrium.	Geomega

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Appendix A **Fall 2002 Groundwater Sampling Report, Chevron, Orlando, Florida Site.**

A.1 Introduction

This appendix reports on the data collection activities that were conducted on the Chevron Orlando, Florida site between September 4-8, 2002. The data collection was conducted by personnel from TASK Environmental, Inc. (Tampa, FL). The objective of the data collection was to fulfill the semi-annual monitoring requirements as set forth in the site's Record of Decision (ROD).

A.2 Site Maintenance Activities

TASK Environmental, Inc. (TASK) performs site maintenance activities on a monthly or bi-monthly basis, depending on rainfall (monthly during wet season, bi-monthly during dry season). Site maintenance activities include mowing the grass, removing weeds and vegetation along the fence-line, trimming trees, repair of the chain-link fence, replacement of warning signs, collection and disposal of garbage and debris, and painting the block wall and monitor well covers.

A.3 Water Quality Data

The data collected from site wells (Figure A-3-1) during the Fall 2002 sampling included:

- water level measurements,
- field geochemical data (pH, ORP, specific conductivity, dissolved oxygen, temperature, color, clarity, and ferrous iron), and
- laboratory analyses (chlorinated pesticides via EPA Method 8081 and volatile organic compounds via EPA Method 8021).

A.3.1 Water Level Measurements

Water level measurements are important at the Orlando, Florida site because water table fluctuations influence analytical chemistry (Section A.4.1 and Appendix C). These data were collected on September 4-8, 2002 for 16 on-site and 11 off-site wells (Table A-3-1), using an electronic water level indicator. Measurements were taken as part of the standard semi-annual well sampling and for use in the evaluation of water level elevation vs. concentration comparison (Section A.4.1).

Consistent with the historic pattern, Fall 2002 groundwater elevations in individual monitoring wells were generally higher than levels measured during Spring 2002 sampling event. The September 2002 water elevations on average increased 1.16 feet above the March 2002 levels. The maximum increase was 2.68 feet at MW-10D, and the only decrease was 0.08 feet at MW-3D.

A.3.2 Field Parameters

Field parameters were measured using a flow-through cell while purging three to five well volumes from the wells, prior to sampling. Purging ceased either after three well volumes or when geochemical readings (e.g., conductivity, ORP, pH, temperature, and dissolved oxygen) had stabilized (Table A-3-2).

With the exception of MW-2S, MW-4S and MW-5S, on- and off-site groundwater has a relatively low specific conductivity (≤380 µS/cm) (microSiemens/centimeter). The conductivity for MW-4S and MW-5S has fluctuated from 120 to 1100 µS/cm and 320 to 900 µS/cm, respectively since 1993. The Spring and Fall 2002 conductivities were consistent with 700 µS/cm in MW-4S and 650 µS/cm in MW-5S. Specific conductivity at MW-2S decreased from 806 µS/cm to 160 µS/cm which is consistent with the seasonal fluctuations observed in this well. ORP measurements ranged from –290.2 mV to 266.6 mV, and dissolved oxygen ranged from 0.04 mg/l to 2.29 mg/l. Dissolved oxygen was lower in deep wells (average 0.33 mg/l) than in shallow wells (average 1.08 mg/l). On- and off-site groundwater is moderately acidic (pH between 3.92 and 6.32) with the lowest pH wells off-site. In September 2002, these pH's generally increased compared to the historic low values measured in April 2001 and the most recent sampling in Spring 2002.

A.3.3 HACH Spectrophotometer Analyses

Following purging, groundwater was passed through a 0.45 µm filter and analyzed for ferrous iron in the field using a HACH DR2000 spectrophotometer. This measurement was used to determine the redox state of each well (Table A-3-3). The reduced form of iron was found in all monitoring wells, ranging from 0.02 to 3.03 mg/l. The reduced

elemental form indicates that site geochemical conditions are generally reducing and, therefore, favorable to reductive dechlorination of the COCs.

A.3.4 Standard Semi-Annual Analyses

Groundwater samples were collected with dedicated disposable Teflon bailers from 19 wells as part of the semi-annual sampling event. Each well was purged prior to sample collection with a peristaltic pump. Three to five well volumes of water were removed from each well prior to sampling. Purge water was collected and treated on-site.

A.3.4.1 Analytical Results

An optimized sampling plan was presented in March of 2001 (Proposed Changes to the Sampling & Analytical Plan for the Chevron Orlando, Florida Site, Geomega, March 2001). Groundwater samples were analyzed for the optimized semi-annual parameters (chlorinated pesticides by EPA Method 8081 and volatile organic compounds via EPA Method 8021) by SunLabs (Table A-3-4 and Appendix D). These analytic data were combined with historical groundwater data to update the site interpretation (Section 4).

In general, numerical results for site COCs (α-, β-, γ-, δ-BHC, and BTEX compounds) conformed to the historic pattern where higher groundwater elevations result in lower COC concentrations.

A.3.4.2 Duplicate Analyses

Duplicate samples were taken in September 2002 from wells MW-1D, MW-3S, and MW-4S and analyzed at SunLabs to determine lab precision. All duplicate analytical results were within 26% of each other (Table A-3-4 and Appendix D).

A.4. Data Analysis

A.4.1 Water Level Elevation vs. Concentration

An analysis of water level elevation versus COC concentration in the Comprehensive Data Review & Hydrogeochemical Conceptualization of the Chevron Orlando Site (Geomega, 1999) showed that short-term temporal variability in COC concentrations was

associated with changes in water level elevation. A correlation was established between average total BHC concentrations and depth to water, suggesting that the rise and fall observed in site water levels controls groundwater BHC concentrations.

The correlation with depth to water is less significant for BTEX compounds because these compounds do not sorb strongly to soils. Therefore, BTEX groundwater concentrations are not as dependent on sorption/desorption mechanisms as the BHC isomers. Previously, it has been recognized that COC concentrations must be examined in conjunction with water level elevations to accurately interpret temporal evolution in COC concentrations. This theory was confirmed again by the results of the Fall 2002 sampling, because while the water level increased from the previous sampling event, the COC concentrations in general decreased over the same time period (see Figure A-4-1 for average concentrations). Appendix C contains figures of water level versus COC concentration for each individual well.

A.4.2 Groundwater COC Observations

Since Fall 2001 no BHCs have been detected in MW-15 which leads to the conclusion that anomalous Spring 2001 low level detections of α- BHC in MW-15 were within the range of analytical uncertainty. The Fall 2002 non-detect results reinforce the evidence of analytical interferences for BHC analyses and substantiate the analytical difficulties associated with low BHC concentrations at this location.

Benzene, ethylbenzene and xylene concentrations increased in monitor wells MW-1D and MW-3S. However, these increased hydrocarbon concentrations did not exceed cleanup standards for ethylbenzene or xylene.

A.4.3 Non-Detect Summary

An analysis was performed of samples collected in 2002. COC analyses were evaluated from all wells sampled in 2001 and 2002 to determine the frequency at which COCs are detected (Table A-4-1). Four wells (MW-2S, MW-5S, MW-5D, and MW-8D) have non-detect BHC and BTEX results at detection limits below the cleanup standards for at least

the last four consecutive sampling events (i.e., April 2001, October 2001, March 2002, and September 2002). Based on these results, groundwater monitoring at these locations can be discontinued.

A.5 Conclusions

The results of the Fall 2002 semi-annual sampling and analysis confirm the interpretations presented in October 1999 (Geomega 1999), including:

- water level fluctuations correlate strongly with groundwater pesticide concentrations;
- the BHC isomer groundwater plume remains stable with the mass of ΣBHC in groundwater decreasing at approximately 10% per annum since 1993 (Geomega 2000c); and
- sampling should be discontinued at MW-2S, MW-5S, MW-5D, and MW-8D based on analytical evidence that COCs are not present at these locations (Appendix B; Geomega 1999, 2000a, 2000b, 2001a, 2001b, 2002).

A.6 References

EPA, Test Methods for Evaluating Solid Waste (SW-846) Method 8081A, Revision 1, December, 1996

F.A.C. Rules 62-4.246 Sampling, Testing Methods, and Method Detection Limits for Water Pollution Sources.

Geomega, 1999. Comprehensive Data Review & Hydrogeochemical Conceptualization of the Chevron Orlando Site. Prepared for Chevron Chemical Company, September 16, 1999.

Geomega, 2000a. Fall 1999 Groundwater Sampling Report, Chevron Orlando, Florida Site. March 2000.

Geomega, 2000b. Spring 2000 Groundwater Sampling Report, Chevron Orlando, Florida Site. September 20, 2000.

Geomega, 2000c. BHC in Chevron Orlando Groundwater: Evidence for Plume Attenuation and Stability. December 13, 2000.

Geomega, 2001a. Fall 2000 Groundwater Sampling Report, Chevron Orlando, Florida Site. February 9, 2001.

Geomega, 2001b. Spring 2001 Groundwater Sampling Report, Chevron Orlando, Florida Site. July 2, 2001.

Geomega, 2002. Fall 2001 Groundwater Sampling Report, Chevron Orlando, Florida Site. January 22, 2002.

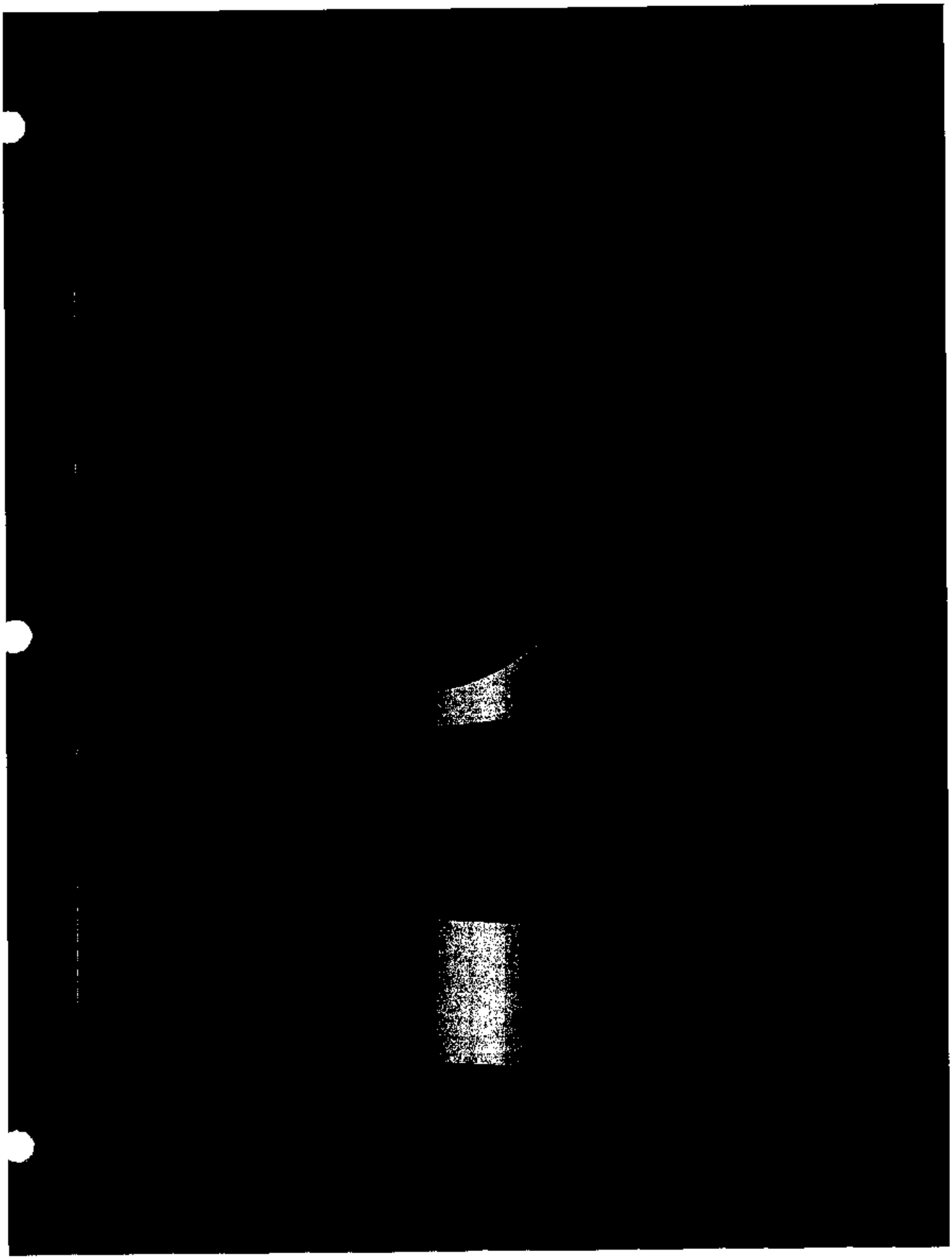


Table A-3-1. Water level elevations for Chevron Orlando, Florida September 2002

Well	Number	Level	Date	Depth to Water (ft BLS)	Top of Casing Elevation (ft MSL)	Water Elevation (ft MSL)
MW-1S	1	S	9/5/02	9.55	100.93	91.38
MW-1D	1	D	9/5/02	9.55	100.89	91.34
MW-2S	2	S	9/5/02	5.61	99.11	93.5
MW-2D	2	D	9/5/02	5.70	99.16	93.46
MW-3S	3	S	9/5/02	6.99	101.82	94.83
MW-3D	3	D	9/6/02	7.22	101.65	94.43
MW-4S	4	S	9/6/02	9.12	102.51	93.39
MW-4D	4	D	9/6/02	8.37	101.93	93.56
MW-5S	5	S	9/4/02	9.80	101.24	91.44
MW-5D	5	D	9/4/02	9.50	100.81	91.31
MW-6S	6	S	9/5/02	9.25	99.8	90.55
MW-6D	6	D	9/6/02	9.10	99.69	90.59
MW-7S	7	S	9/7/02	5.13	100.5	95.37
MW-7D	7	D	9/8/02	6.91	102.27	95.36
MW-8S	8	S	9/5/02	6.25	102.17	95.92
MW-8D	8	D	9/5/02	7.35	103.04	95.69
MW-9D	9	D	9/5/02	6.91	102.59	95.68
MW-10S	10	S	9/5/02	8.35	103.31	94.96
MW-10D	10	D	9/5/02	9.48	104.35	94.87
MW-11	11	S	9/6/02	6.70	96.24	89.54
MW-12	12	S	9/7/02	6.68	97.95	91.27
MW-15	15	S	9/4/02	8.82	99.21	90.39
MW-16S	16	S	9/4/02	12.35	104.03	91.68
MW-16D	16	D	9/4/02	11.93	103.70	91.77
MW-17	17	S	9/5/02	8.79	103.23	94.44
MW-D	101	S	9/5/02	7.04	102.96	95.92
MW-A	100	S	9/6/02	10.30	105.01	94.71

Table A-3-2. Field parameters for Chevron Orlando, Florida Fall 2002

Well	Purge Volume (gallons)	pH	Temperature (°C)	Specific Conductivity (µmhos)	ORP (mV)	D.O. (mg/L)	Clarity (NTU)
MW-1S	3	4.82	26.5	380	-127.8	0.83	3.37
MW-1D	11	4.79	26.7	285	-256.8	0.39	5.93
MW-2S	4	5.79	26.8	160	63.2	2.29	303
MW-2D	12.5	5.39	25.9	360	-281.9	0.54	3.99
MW-3S	5.5	5.29	25.9	295	-284.2	0.84	3.1
MW-3D	13.5	3.95	24.3	140	-210.2	0.26	9.29
MW-4S	4	5.07	25.5	700	-245.9	0.72	2.82
MW-4D	12	4.28	24.7	200	-246.7	0.04	4.09
MW-5S	3	5.57	25.0	650	-268.5	1.38	4.46
MW-5D	10	4.76	24.4	295	-212.9	0.67	13.0
MW-6S		NA	NA	NA	NA	NA	NA
MW-6D		NA	NA	NA	NA	NA	NA
MW-7S	7	NA	NA	NA	NA	NA	NA
MW-7D	14.5	NA	NA	NA	NA	NA	NA
MW-8S	5.6	6.32	27.0	275	266.6	0.81	116
MW-8D	12.5	4.21	25.1	90	-242.5	0.22	1.45
MW-8D	12.5	5.45	25.4	300	-290.2	0.39	379
MW-10S	4	5.25	26.5	180	-83.5	1.61	34.6
MW-10D	36.5	4.13	25.7	100	-203.8	0.12	1.61
MW-11	8.6	NA	NA	NA	NA	NA	NA
MW-12	7	NA	NA	NA	NA	NA	NA
MW-15	6	3.92	26.1	115	23.9	0.79	1.38
MW-16S	5	4.69	25.6	240	-166.0	1.06	15.8
MW-16D	11	4.29	25.1	130	-177.9	0.38	0.72
MW-17	6.5	4.95	26.6	215	-248.7	0.5	22.4
MW-D		NA	NA	NA	NA	NA	NA
MW-A		NA	NA	NA	NA	NA	NA

Table A-3-3. HACH Spectrophotometer analyses for Chevron Orlando, Florida Fall 2002

Well	Date	Fe^{2+} (mg/L)
MW-1S	9/5/02	0.87
MW-1D	9/5/02	0.74
MW-2S	9/5/02	0.94
MW-2D	9/5/02	0.40
MW-3S	9/5/02	0.47
MW-3D	9/6/02	2.82
MW-4S	9/6/02	0.59
MW-4D	9/6/02	0.78
MW-5S	9/4/02	0.20
MW-5D	9/4/02	0.12
MW-6S	Sep-02	NA
MW-6D	Sep-02	NA
MW-7S	Sep-02	NA
MW-7D	Sep-02	NA
MW-8S	9/5/02	0.08
MW-8D	9/5/02	1.14
MW-9D	9/5/02	0.25
MW-10S	9/5/02	0.07
MW-10D	9/5/02	0.49
MW-11	Sep-02	NA
MW-12	Sep-02	NA
MW-15	9/4/02	0.02
MW-16S	9/4/02	0.06
MW-16D	9/4/02	3.03
MW-17	9/5/02	0.11
MW-D	9/5/02	NA
MW-A	Sep-02	NA

Table A-3-4. Groundwater pesticide and BTEX analyses for Chevron Orlando, Florida September 2002

	Collection Date	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	DDD µg/l	MTBE µg/l
Cleanup Standard		**0.05**	**0.1**	**0.2**	–	**1**	**700**	–	**10,000**	**2**	**2**	**0.1**	–
MW-1S	9/5/02	**0.13**	**0.2**	0.05	0.32	0.9	0.9	1.2	2.2	**0.1**	0.1	0.05	5
MW-1D	9/5/02	**1.3**	**0.83**	**0.5**	0.5	**4.8**	41	1.2	86	1	1	**0.5**	5
MW-2S	9/5/02	0.04	0.05	0.05	0.03	--	--	--	--	0.1	**0.1**	0.05	--
MW-2D	9/5/02	0.04	**0.32**	0.05	0.03	--	--	--	--	0.1	0.1	0.05	--
MW-3S	9/5/02	**0.21**	**0.21**	0.05	0.16	**5.3**	5.7	1.2	11	0.1	0.1	0.05	5
MW-3D	9/6/02	0.04	0.06	0.05	0.03	0.9	0.9	1.2	2.2	0.1	0.1	0.05	5
MW-4S	9/6/02	**1.9**	**5.2**	**0.5**	3.2	0.9	0.9	1.2	2.2	1	1	**0.5**	5
MW-4D	9/6/02	**2.2**	**2.2**	**0.5**	4.5	**14**	120	6	330	1	1	**0.5**	25
MW-5S	9/4/02	0.04	0.05	0.05	0.03	–	–	--	--	0.1	0.1	0.05	--
MW-5D	9/4/02	0.04	0.05	0.05	0.03	–	--	–	–	0.1	0.1	0.05	--
MW-8S	9/5/02	0.04	0.05	0.05	0.03	–	--	--	–	0.1	0.1	0.05	–
MW-8D	9/5/02	0.04	0.05	0.05	0.03	–	–	–	–	**0.1**	0.1	0.05	–
MW-9D	9/5/02	**0.08**	**0.39**	**0.81**	0.03	0.9	0.9	1.2	2.2	**0.1**	0.1	**0.37**	5
MW-10S	9/5/02	**0.59**	**27**	**0.28**	5.9	0.9	0.9	1.2	2.2	1	1	**0.5**	5
MW-10D	9/5/02	0.04	0.05	0.05	0.03	0.9	0.9	1.2	2.2	0.1	0.1	0.05	5
MW-15	9/4/02	0.04	0.05	0.05	0.03	0.9	0.9	1.2	2.2	0.1	0.1	0.05	5.0
MW-16S	9/4/02	**0.77**	**4.8**	**0.51**	1.3	0.9	0.9	1.2	2.2	1	1	**0.5**	5
MW-16D	9/4/02	**0.76**	**0.76**	0.04	0.13	**2**	0.9	1.2	2.2	0.1	0.1	0.05	5
MW-17	9/5/02	**1.6**	**1.3**	**0.37**	1.9	0.9	0.9	1.2	2.2	1	1	**0.5**	5
MW-101D	9/5/02	**1.6**	**1**	**0.5**	2.5	**4.7**	40	1.2	83	1	1	**0.5**	5
MW-103S	9/5/02	**0.15**	**0.19**	0.05	0.13	**5.7**	4.4	1.2	9.5	0.1	0.1	0.05	5
MW-104S	9/6/02	**2.4**	**6.5**	**0.5**	3.8	0.9	0.9	1.2	2.2	**1**	1	**0.5**	5

***bolded** values indicate exceedances of cleanup standards

Table A-4-1. Non-detect summary for samples collected in 2001 and 2002, Chevron Orlando, Florida

	a-BHC µg/l				b-BHC µg/l				γ-BHC µg/l			
Cleanup Standard	0.05				0.1				0.2			
Well	Apr-01	Oct-01	Mar-02	Sep-02	Apr-01	Oct-01	Mar-02	Sep-02	Apr-01	Oct-01	Mar-02	Sep-02
MW-1S	0.11/0.11	0.92	0.12	0.13	0.49/0.49	0.33	0.22	0.2	**<0.05/<0.05**	**<0.1**	**<0.05**	**<0.05**
MW-1D	2	0.12	1.4	1.3	1.6	0.82	<0.25	0.83	0.16	**<0.05**	**<0.05**	0.5
MW-2S	**<0.04**	**<0.04**	**<0.04**	**<0.04**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
MW-2D	**<0.04/<0.04**	**<0.04/<0.04**	**<0.04**	**<0.04**	**<0.05/<0.05**	**<0.05/<0.05**	**<0.05**	0.32	<0.05/<0.05	0.3/0.28	**<0.05**	**<0.05**
MW-3S	0.54	0.55	0.27/0.2	0.21	**<0.1**	**<0.05**	**<0.05/<0.05**	0.21	**<0.1**	**<0.05**	**<0.05**	**<0.05**
MW-3D	0.12	0.06/0.07	0.04	<0.04	**<0.05**	**<0.05/<0.05**	**<0.05**	0.06	**<0.05**	**<0.05/<0.05**	**<0.05**	**<0.05**
MW-4S	8.4	3.1	3.3	1.9	8.4	9.5	5.5	5.2	1.4	**<0.5**	**<0.05**	0.5
MW-4D	4.3	5.1	3	2.2	3.3	3.6	<0.5	2.2	**<0.05**	**<0.5**	**<0.05**	0.5
MW-5S	**<0.04**	**<0.04**	**<0.04**	**<0.04**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
MW-5D	**<0.04/<0.04**	**<0.04**	**<0.04**	**<0.04**	**<0.05/<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05/<0.05**	**<0.05**	**<0.05**	**<0.05**
MW-7S												
MW-7D												
MW-8S	**<0.04**	**<0.04**	**<0.04**	**<0.04**	<0.05	0.29	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
MW-8D	**<0.04**	**<0.04**	**<0.04**	**<0.04**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
MW-9D	<0.04	0.06	0.06	0.08	0.38	0.34	0.33	0.39	**<0.05**	**<0.05**	**<0.05**	0.81
MW-10S	1.6	1.8/1.6	0.91	0.59	24	59/60	29	27	2.1	**<1.25/<1.25**	**<0.05**	0.28
MW-10D	**<0.04**	**<0.04**	**<0.04/<0.04**	**<0.04**	0.19	<0.05	0.15/0.17	0.05	**<0.05**	**<0.05**	**<0.05**	**<0.05**
MW-11			<0.04				<0.05				**<0.05**	
MW-12	**<0.04**		<0.04		**<0.05**		<0.05		**<0.05**		<0.05	
MW-15	<0.04	0.07	**<0.04/<0.04**	**<0.04**	**<0.05**	**<0.05**	**<0.05/<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<0.05**
MW-16S	1.8/1.7	0.9/0.9	0.83	0.77	27/26	8.3/8	7	4.8	1.1/1	0.6/0.6	0.58	0.51
MW-16D	<0.04	0.86	.021/0.25	0.76	1.8	12	5.2/5.9	0.76	<0.05	0.7	<0.05	0.04
MW-17	1.9	1.6	2.4	1.6	2.1	2.2	0.94	1.3	<0.05	0.48	0.28	0.37
MW-103S				0.15				0.19				<0.05
MW-104S				2.4				6.5				0.5
number of wells sampled	20	19	21	22	20	19	21	22	20	19	21	22
detections	9	12	11	13	10	10	8	16	4	4	2	10
non-detects	11	7	10	9	10	9	13	6	16	15	19	12

regular/duplicate

Bold values indicate non-detects for two or more consecutive sampling events.

Table A-4-1. Non-detect summary for samples collected in 2001 and 2002, Chevron Orlando, Florida

	d-BHC µg/l				Benzene µg/l				Ethylbenzene µg/l			
Cleanup Standard					1				700			
Well	Apr-01	Oct-01	Mar-02	Sep-02	Apr-01	Oct-01	Mar-02	Sep-02	Apr-01	Oct-01	Mar-02	Sep-02
MW-1S	1.5/1.5	0.28	0.27	0.32	**<0.9/<0.9**	**<0.9**	**<0.9**	**<0.9**	**<1.1/<1.1**	**<0.9**	**<0.9**	**<0.9**
MW-1D	3	0.52	2.6	0.5	2.9	<0.9	2.3	4.8	63	1.1	26	41
MW-2S	**<0.03**	**<0.03**	**<0.03**	**<0.03**				--				--
MW-2D	**<0.03/<0.03**	**<0.03/<0.03**	**<0.03**	**<0.03**				--				--
MW-3S	**<0.06**	**<0.03**	**<0.03/<0.03**	0.16	<0.9	1.4	1.9/1.9	5.3	11	1.1	4.3/4.8	5.7
MW-3D	**<0.03**	**<0.03/<0.03**	**<0.03**	**<0.03**	**<0.9**	**<0.9/<0.9**	**<0.9**	**<0.9**	**<1.1**	**<0.9/<0.9**	**<0.9**	**<0.9**
MW-4S	20	7	5.2	3.2	11		1	<0.9	37		4	<0.9
MW-4D	6.7	10	7.4	4.5	19		13	14	230		130	120
MW-5S	**<0.03**	**<0.03**	**<0.03**	**<0.03**				--				--
MW-5D	**<0.03/<0.03**	**<0.03**	**<0.03**	**<0.03**				--				--
MW-7S					**<0.9**		<0.9		**<1.1**		<0.9	
MW-7D					**<0.9**		<0.9		**<1.1**		<0.9	
MW-8S	<0.03	0.09	**<0.03**	**<0.03**	<0.9			--	<1.1			--
MW-8D	**<0.03**	**<0.03**	**<0.03**	**<0.03**	<0.9			--	<1.1			--
MW-9D	0.2	0.82	0.29	<0.03	**<0.9**	**<0.9**	**<0.9**	**<0.9**	**<1.1**	**<0.9**	**<0.9**	**<0.9**
MW-10S	6.5	19/19	8.7	5.9	**<0.9**	**<0.9/<0.9**	**<0.9**	**<0.9**	**<1.1**	**<0.9/<0.9**	**<0.9**	**<0.9**
MW-10D	**<0.03**	**<0.03**	**<0.03/<0.03**	**<0.03**	1.6	**<0.9**	**<0.9/<0.9**	**<0.9**	**<1.1**	**<0.9**	**<0.9/<0.9**	**<0.9**
MW-11			**<0.03**									
MW-12	**<0.03**		<0.03									
MW-15	**<0.03**	**<0.03**	**<0.03/<0.03**	**<0.03**	**<0.9**	**<0.9**	**<0.9/<0.9**	**<0.9**	**<1.1**	**<0.9**	**<0.9/<0.9**	**<0.9**
MW-16S	8.5/7.7	2/2	2.2	1.3	**<0.9/<0.9**		**<0.9**	**<0.9**	**<1.1/<1.1**		**<0.9**	**<0.9**
MW-16D	0.29	3.9	1.1/1.3	0.13	3.3		1.3/1.4	2	**<1.1**		**<0.9/<0.9**	**<0.9**
MW-17	6.5	4.1	2.7	1.9	4.8		**<0.9**	**<0.9**	3.1		**<0.9**	**<0.9**
MW-103S				0.13				5.7				4.4
MW-104S				3.8				<0.9				<0.9
number of wells sampled	20	19	21	22	17	8	16	16	17	8	16	16
detections	9	10	9	12	6	1	5	6	5	2	4	5
non-detects	11	9	12	10	12	7	11	10	13	6	12	11

regular/duplicate

Bold values indicate non-detects for two or more consecutive sampling events.

Table A-4-1. Non-detect summary for samples collected in 2001 and 2002, Chevron Orlando, Florida

	Toluene µg/l				Xylenes µg/l				α-Chlordane µg/l			
Cleanup Standard					10,000				2			
Well	Apr-01	Oct-01	Mar-02	Sep-02	Apr-01	Oct-01	Mar-02	Sep-02	Apr-01	Oct-01	Mar-02	Sep-02
MW-1S	**<1/<1**	**<1.2**	**<1.2**	**<1.2**	**<1.1/<1.1**	**<2.2**	**<2.2**	**<2.2**	**<0.1/<0.1**	**<0.2**	**<0.1**	**<0.1**
MW-1D	**<1**	**<1.2**	**<1.2**	**<1.2**	120	<2.2	58	86	**<0.1**	**<0.1**	**<0.5**	**<1**
MW-2S				—				—	**<0.1**	**<0.1**	**<0.1**	**<0.1**
MW-2D				—				—	**<0.1/<0.1**	**<0.1/<0.1**	**<0.1**	**<0.1**
MW-3S	**<1**	**<1.2**	**<1.2/<1.2**	**<1.2**	11	2.1	4.4/4.6	11	**<0.2**	**<0.1**	**<0.1/<0.1**	**<0.1**
MW-3D	**<1**	**<1.2/<1.2**	**<1.2**	**<1.2**	**<1.1**	**<2.2/<2.2**	**<2.2**	**<2.2**	**<0.1**	**<0.1/<0.1**	**<0.1**	**<0.1**
MW-4S	2.2		<1.2	**<1.2**	100		13	<2.2	**<0.1**	**<1**	**<1**	**<1**
MW-4D	13		7.8	6	560		290	330	**<0.1**	**<1**	**<1**	**<1**
MW-5S				—				—	**<0.1**	**<0.1**	**<0.1**	**<0.1**
MW-5D				—				—	**<0.1/<0.1**	**<0.1**	**<0.1**	**<0.1**
MW-7S	**<1**		**<1.2**		**<1.1**		**<2.2**					
MW-7D	**<1**		**<1.2**		**<1.1**		**<2.2**					
MW-8S	<1			—	<1.1			—	**<0.1**	**<0.1**	**<0.1**	**<0.1**
MW-8D	<1			—	<1.1			—	**<0.1**	**<0.1**	**<0.1**	**<0.1**
MW-9D	**<1**	**<1.2**	**<1.2**	**<1.2**	**<1.1**	**<2.2**	**<2.2**	**<2.2**	**<0.1**	**<0.1**	**<0.1**	**<0.1**
MW-10S	**<1**	**<1.2/<1.2**	**<1.2**	**<1.2**	**<1.1**	**<2.2/<2.2**	**<2.2**	**<2.2**	**<0.1**	**<2.5/<2.5**	**<2**	**<1**
MW-10D	**<1**	**<1.2**	**<1.2/<1.2**	**<1.2**	**<1.1**	**<2.2**	**<2.2/<2.2**	**<2.2**	**<0.1**	**<0.1**	**<0.1/<0.1**	**<0.1**
MW-11											**<0.1**	
MW-12									**<0.1**		**<0.1**	
MW-15	**<1**	**<1.2**	**<1.2/<1.2**	**<1.2**	**<1.1**	**<2.2**	**<2.2/<2.2**	**<2.2**	**<0.1**	**<0.1**	**<0.1/<0.1**	**<0.1**
MW-16S	**<1/<1**		**<1.2**	**<1.2**	**<1.1/<1.1**		**<2.2**	**<2.2**	**<0.1/<0.1**	**<1/<1**	**<1**	**<1**
MW-16D	**<1**		**<1.2/<1.2**	**<1.2**	**<1.1**		**<2.2/<2.2**	**<2.2**	**<0.1**	**<0.1**	**<1/<1**	**<0.1**
MW-17	**<1**		**<1.2**	**<1.2**	**<1.1**		**<2.2**	**<2.2**	**<0.1**	**<1**	**<1**	**<1**
MW-103S				<1.2				9.5				<0.1
MW-104S				<1.2				<2.2				<1
number of wells sampled	17	8	16	16	17	8	16	16	20	19	21	22
detections	2	0	1	1	4	1	4	4	0	0	0	0
non-detects	16	8	15	15	14	7	12	12	20	19	21	22

regular/duplicate

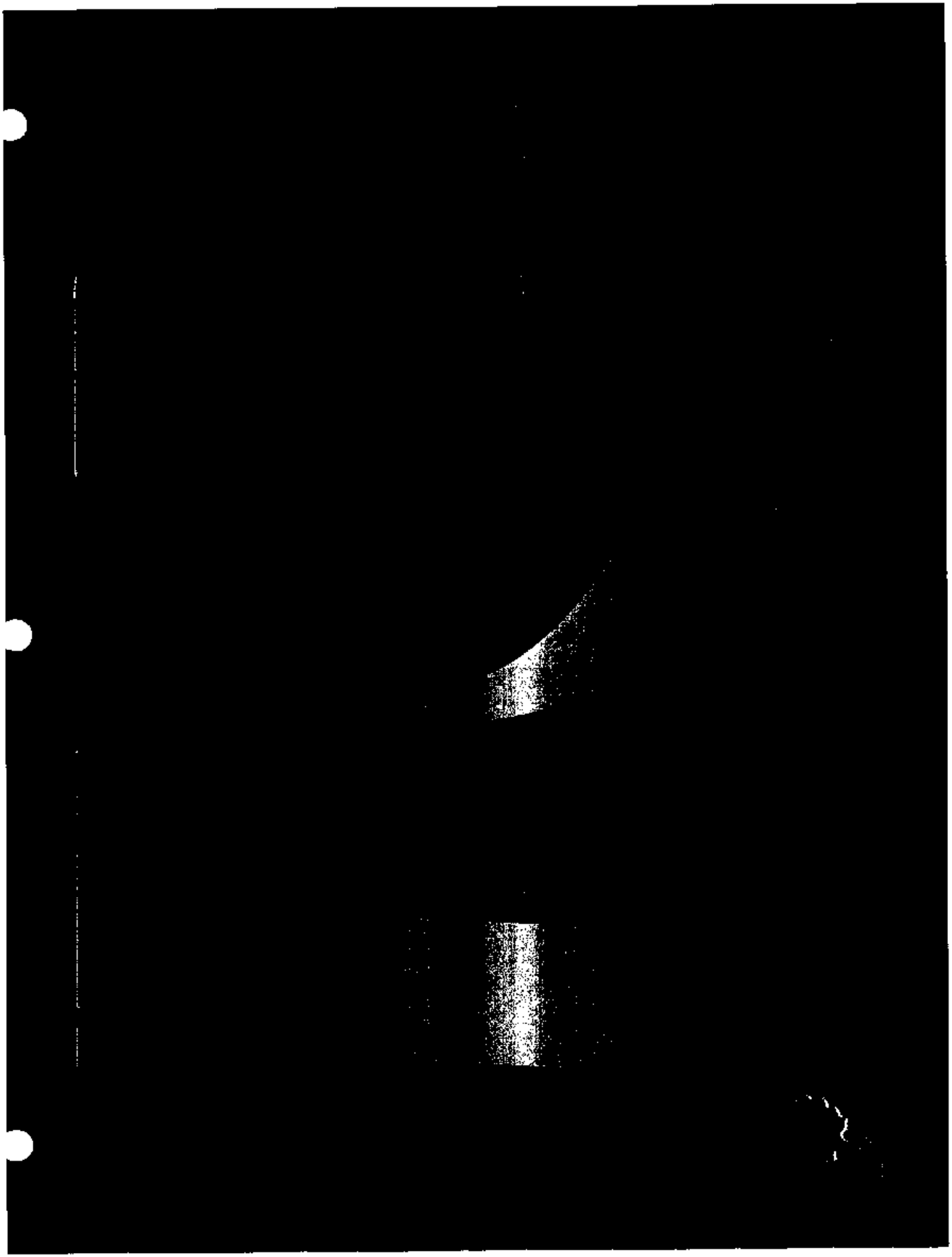
Bold values indicate non-detects for two or more consecutive sampling events.

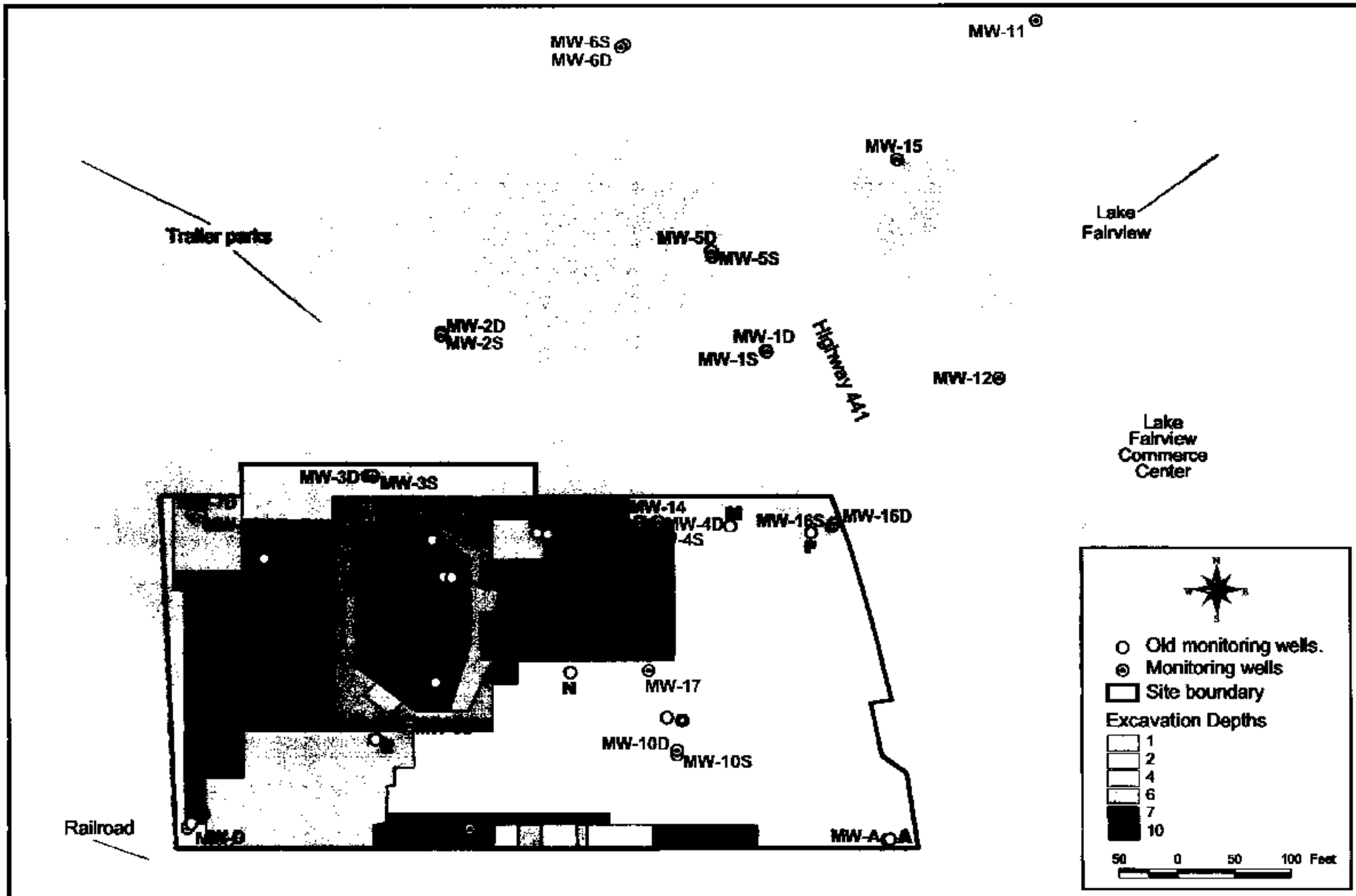
Table A-4-1. Non-detect summary for samples collected in 2001 and 2002, Chevron Orlando, Florida

	γ-Chlordane µg/l				DDD µg/l				MTBE µg/l			
Cleanup Standard	2				0.1							
Well	Apr-01	Oct-01	Mar-02	Sep-02	Apr-01	Oct-01	Mar-02	Sep-02	Apr-01	Oct-01	Mar-02	Sep-02
MW-1S	**<0.1/<0.1**	**<0.2**	**<0.1**	**<0.1**	**<0.05/<0.05**	**<0.1**	**<0.05**	**<0.05**	**<5/<5**	**<5**	**<5**	**<5**
MW-1D	**<0.1**	**<0.1**	**<0.5**	**<1**	**<0.05**	**<0.05**	**<0.25**	**<0.5**	**<5**	**<5**	**<5**	**<5**
MW-2S	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.05**	**<0.05**				–
MW-2D	**<0.1/<0.1**	**<0.1/<0.1**	**<0.1**	**<0.1**	**<0.05/<0.05**	**<0.05/<0.05**	**<0.05**	**<0.05**				–
MW-3S	**<0.2**	**<0.1**	**<0.1/<0.1**	**<0.1**	2.6	**<0.05**	**<0.05/<0.05**	**<0.05**	**<5**	**<5**	**<5/<5**	**<5**
MW-3D	**<0.1**	**<0.1/<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.05/<0.05**	**<0.05**	**<0.05**	**<5**	**<5/<5**	**<5**	**<5**
MW-4S	**<0.1**	**<1**	**<1**	**<1**	**<0.05**	**<0.5**	**<0.5**	**<0.5**	**<5**		**<5**	**<5**
MW-4D	**<0.1**	**<1**	**<1**	**<1**	**<0.05**	**<0.5**	**<0.5**	**0.5**	**<5**		<10	25
MW-5S	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.05**	**0.05**				–
MW-5D	**<0.1/<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.05/<0.05**	**<0.05**	**<0.05**	**0.05**				–
MW-7S									**<5**		**<5**	
MW-7D									**<5**		**<5**	
MW-8S	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<5**			–
MW-8D	**<0.1**	**<0.1**	**<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.05**	**<0.05**	**<5**			–
MW-9D	**<0.1**	**<0.1**	**<0.1**	**<0.1**	<0.05	0.73	<0.05	0.37	**<5**	**<5**	**<5**	**<5**
MW-10S	2.7	**<2.5/<2.5**	**<2**	**<1**	**<0.05**	**<1.25/<1.25**	**<1**	**<0.5**	**<5**	**<5/<5**	**<5**	**<5**
MW-10D	**<0.1**	**<0.1**	**<0.1/<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.05/<0.05**	**<0.05**	37	**<5**	**<5/<5**	**<5**
MW-11			**<0.1**				**<0.05**					
MW-12	<0.1		**<0.1**		**<0.05**		<0.05					
MW-15	**<0.1**	**<0.1**	**<0.1/<0.1**	**<0.1**	**<0.05**	**<0.05**	**<0.05/<0.05**	**<0.05**	**<5**	**<5**	**<5/<5**	**<5**
MW-16S	3.3/2.9	**<1/<1**	**<1**	**<1**	**<0.05/<0.05**	**<0.5/<0.5**	**<0.5**	**<0.5**	**<5/<5**		**<5**	**<5**
MW-16D	**<0.1**	**<0.1**	**<1/<1**	**<0.1**	**<0.05**	**<0.05**	**<0.5/<0.5**	**<0.05**	5.4		**<5/<5**	**<5**
MW-17	1.5	**<1**	**<1**	**<1**	**<0.05**	**<0.5**	**<0.5**	**<0.5**	**<5**		**<5**	**<5**
MW-103S				<0.1				<0.05				<5
MW-104S				<1				<0.5				<5
number of wells sampled	20	19	21	22	20	19	21	22	17	8	16	16
detections	3	0	0	0	1	1	0	1	2	0	0	0
non-detects	17	19	21	22	19	18	21	21	16	8	16	16

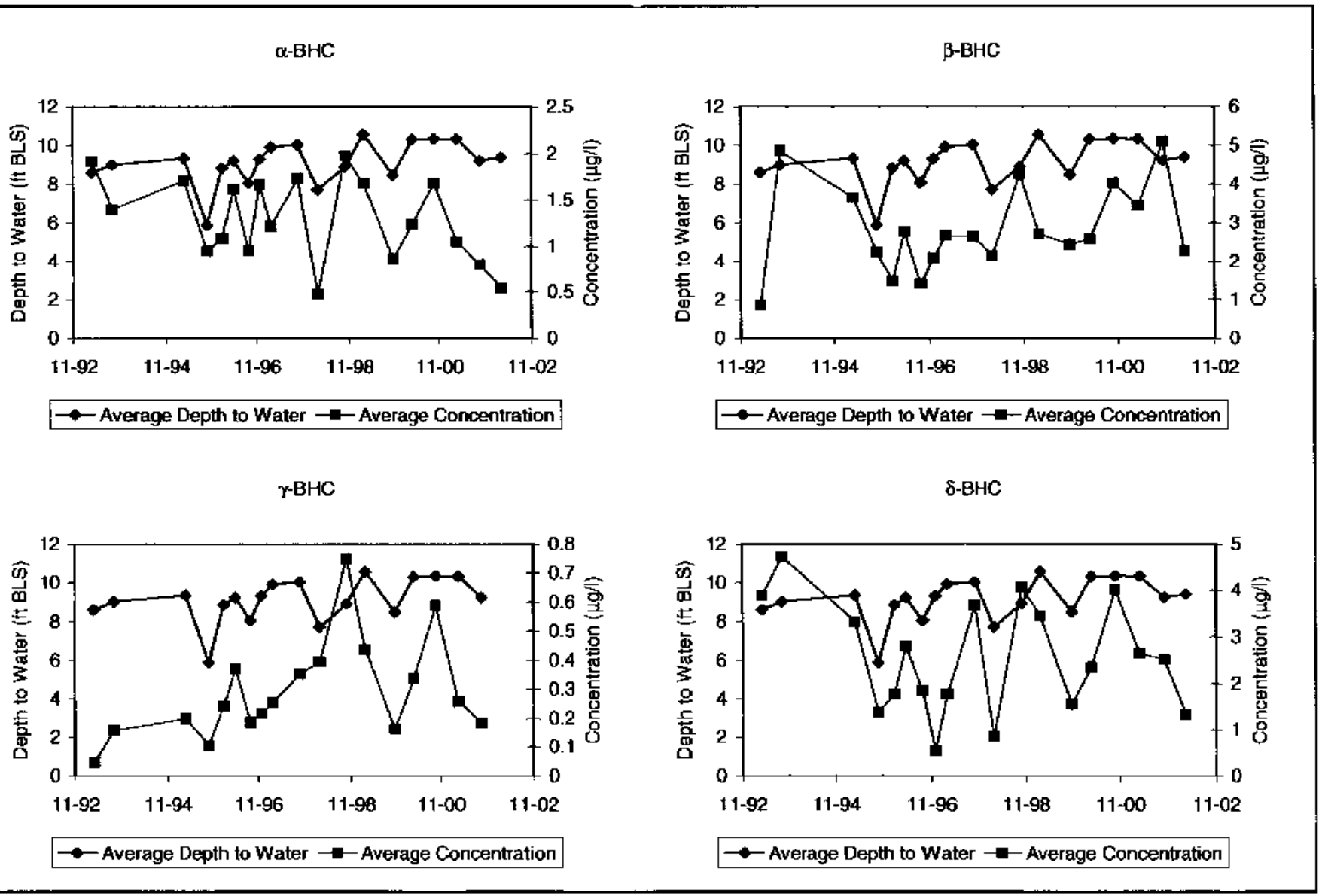
regular/duplicate

Bold values indicate non-detects for two or more consecutive sampling events.

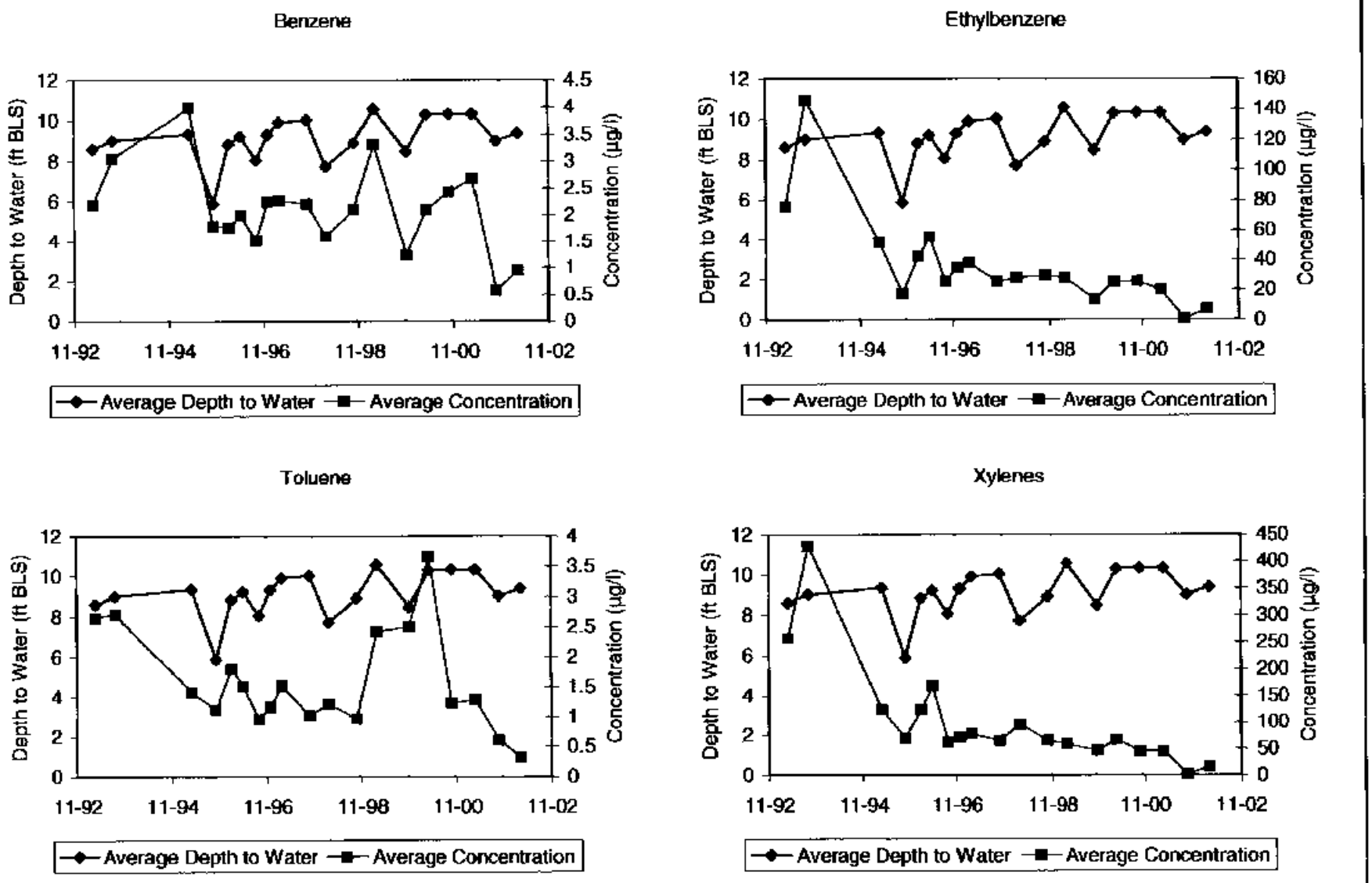




Generation Date: 3/21/03	Figure A-3-1. Basemap of Chevron Orlando, Florida, site boundary, approximate excavation surface, and monitoring well locations.	Geomega



Generation Date: 3/21/03	Figure A-4-1. Average depth to water vs. average concentration at Chevron Orlando, Florida.	Geomega



Generation Date: 3/21/03	Figure A-4-1. Average depth to water vs. average concentration at Chevron Orlando, Florida.	Geomega

Appendix B Summary of COC Analyses, Chevron Orlando, Florida

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-1S	Oct-91		0.26	0.4	ND	0.97	5.4	53	2	55			ND	ND	<1.8
MW-1S	Apr-93		0.92	0.77	ND	2.9	1.1	35	1.4	100			ND	ND	<5
MW-1S	Sep-93		5	2	ND	7.7	5.9	63	1.5	120			ND	ND	<5
MW-1S	Apr-95		2.5	1.3	ND	2.3	6	120	5.6	360			ND	ND	13
MW-1S	Oct-95		1.9	0.89	ND	3.5	5.5	<4.5	5	320			ND	ND	<25
MW-1S	Feb-96		1.4	1.4	ND	4.5	8	240	13	720			ND	ND	6.8
MW-1S	May-96		1.7	1.4	ND	3.4	5.2	290	7.4	800			ND	ND	<5
MW-1S	Sep-96		1.4	0.76	ND	3.8	1.9	10	<1	29			ND	ND	<5
MW-1S	Dec-96		3.1	<0.05	ND	<0.05	4.6	120	3.8	240			ND	ND	<5
MW-1S	Mar-97		3.9	<0.5	ND	<0.5	6	200	8.5	320			ND	ND	<25
MW-1S	Oct-97		4	2	ND	10	5.8	187	4.8	374.2			ND	ND	<0.63
MW-1S	Mar-98		<0.05	<0.05	ND	<0.05	1.9	60.6	2.1	129.2			ND	ND	<5
MW-1S	Oct-98		1.8	<0.4	ND	6	3.6	54.1	1.26	128.9			ND	ND	<5
MW-1S	Mar-99		2.5	2.5	ND	6.5	4	39	<5	49			ND	ND	<5
MW-1S	Nov-99		0.26	0.48	<0.05	0.85	<0.6	<1	<5	<2			<1	<0.1	<5
MW-1S	Apr-00		1.4	1.7	<0.25	2.4	<1	8.8	<5	10	<0.25	<0.25		<0.5	<5
MW-1S	Oct-00		0.84	1.1	<0.5	5	<0.9	<1.1	<1	<1.1	<1	<1		<0.5	<5
MW-1S	Apr-01		0.11	0.49	<0.05	1.5	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-1S	Apr-01	Duplicate	0.11	0.49	<0.05	1.5	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-1S	Oct-01		0.92	0.33	<0.1	0.28	<0.9	<0.9	<1.2	<2.2	<0.2	<0.2		<0.1	<5
MW-1S	Mar-02		0.12	0.22	<0.05	0.27	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5.0
MW-1S	Sep-02		0.13	0.2	<0.05	0.32	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5
MW-1D	Oct-91		<1	<1	ND	<1	<1.2	67	<2	520			ND	ND	ND
MW-1D	Apr-93		2.2	0.93	ND	2.4	3.6	240	5.3	620			ND	ND	ND
MW-1D	Sep-93		2	1.5	ND	3.3	3.1	120	6.3	200			ND	ND	ND
MW-1D	Apr-95		0.77	0.53	ND	1.6	1.4	45	<1	57			ND	ND	ND
MW-1D	Oct-95		1	<0.05	ND	1.9	2.8	14	1.8	140			ND	ND	ND
MW-1D	Feb-96		0.96	0.92	ND	1.7	6	270	6.3	530			ND	ND	ND
MW-1D	May-96		0.8	0.88	ND	1.9	4.6	300	4.1	610			ND	ND	ND
MW-1D	Sep-96		0.59	0.92	ND	1.5	2.3	150	2.1	290			ND	ND	ND
MW-1D	Dec-96		0.92	0.59	ND	<0.05	2.4	170	1.9	230			ND	ND	ND
MW-1D	Mar-97		1.1	<0.05	ND	<0.05	3	200	<5	350			ND	ND	ND
MW-1D	Oct-97		1	1	ND	3	2.4	174	2.1	518.6			ND	ND	ND
MW-1D	Mar-98		<0.05	<0.05	ND	<0.05	8.9	315	8.5	1357			ND	ND	ND
MW-1D	Oct-98		1.2	<0.05	ND	1.3	3.17	180	2.11	501.7			ND	ND	ND
MW-1D	Mar-99		0.93	1.1	ND	1.8	<6	230	<50	540			ND	ND	ND
MW-1D	Mar-99	Duplicate	0.81	1.1		1.6	3.8	210	<5	500					
MW-1D	Nov-99		0.74	1.1	<0.05	1.2	3.5	150	<5	530			<1	<0.1	<5
MW-1D	Nov-99	Duplicate	0.9	1.1	<0.05	1.3	2.8	130	<5	520			<1	<0.1	<5

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-1D	Nov-99	Replicate	0.66	0.45	<0.05	0.86	2.9	150	1.5	500	<0.1	<0.1		<0.05	<5
MW-1D	Apr-00		0.95	1.7	<0.05	1.2	<10	150	<50	680	<0.05	<0.05		<0.1	<50
MW-1D	Apr-00	Duplicate	1.2	2	0.13	1.2	4	190	<5	700	<0.05	<0.05		<0.1	<5
MW-1D	Oct-00		1.7	3.7	0.19	3.4	<9	190	<10	58	<0.1	<0.1		<0.05	<50
MW-1D	Apr-01		2	1.6	0.16	3	2.9	63	<1	120	<0.1	<0.1		<0.05	<5
MW-1D	Oct-01		0.12	0.82	<0.05	0.52	<0.9	1.1	<1.2	<2.2	<0.1	<0.1		<0.05	<5
MW-1D	Mar-02		1.4	<0.25	<0.25	2.6	2.3	26	<1.2	58	<0.5	<0.5		<0.25	<5.0
MW-1D	Sep-02		1.3	0.83	0.5	2.0	4.8	41	<1.2	86	1	1		<0.5	<5
MW-1D	Sep-02	Duplicate	1.6	1	0.5	2.5	4.7	40	<1.2	83	1	1		0.5	<5
MW-2S	Oct-91		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Apr-93		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Sep-93		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Apr-95		<0.05	<0.05	ND	<0.05	ND	1.1	ND	4.6			ND	ND	ND
MW-2S	Oct-95		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Feb-96		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	May-96		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Sep-96		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Dec-96		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Mar-97		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Oct-97		0.02	0.07	ND	0.04	ND	<0.43	ND	<1			ND	ND	ND
MW-2S	Mar-98		<0.05	<0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Oct-98		<0.05	0.05	ND	<0.05	ND	<0.9	ND	<0.9			ND	ND	ND
MW-2S	Mar-99		<0.05	<0.05	ND	<0.05	ND	<1	ND	<2			ND	ND	ND
MW-2S	Nov-99		<0.05	<0.05	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-2S	Apr-00		<0.05	<0.05	<0.05	<0.05	<1	<1	<5	<2	<0.05	<0.05		<0.1	<5
MW-2S	Apr-00	Replicate	<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-2S	Oct-00		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-2S	Apr-01		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-2S	Oct-01		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-2S	Mar-02		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-2S	Sep-02		<0.04	<0.05	<0.05	<0.03	--	--	--	--	<0.1	<0.1		<0.05	--
MW-2D	Oct-91		0.68	<0.5	ND	<0.5	5.7	240	5.2	600			ND	ND	ND
MW-2D	Apr-93		<0.05	<0.05	ND	<0.05	0.7	88	2	570			ND	ND	ND
MW-2D	Sep-93		0.26	1.4	ND	0.21	<0.6	110	2	470			ND	ND	ND
MW-2D	Apr-95		<0.25	0.45	ND	<0.25	<0.6	97	1.3	370			ND	ND	ND
MW-2D	Oct-95		<0.05	<0.05	ND	<0.05	0.6	5.1	1.1	120			ND	ND	ND
MW-2D	Feb-96		0.11	0.23	ND	0.19	<0.6	54	1.2	200			ND	ND	ND
MW-2D	May-96		<0.05	0.24	ND	0.15	0.7	47	1.5	130			ND	ND	ND
MW-2D	Sep-96		<0.05	0.18	ND	0.1	<0.6	21	<1	30			ND	ND	ND

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-2D	Dec-96		<0.05	<0.05	ND	<0.05	<0.6	39	1.1	91			ND	ND	ND
MW-2D	Mar-97		<0.05	<0.05	ND	<0.05	<0.6	24	<1	49			ND	ND	ND
MW-2D	Oct-97		0.05	0.2	ND	<0.01	<0.25	22.1	<0.31	29.5			ND	ND	ND
MW-2D	Mar-98		0.18	0.44	ND	<0.05	<0.6	53.1	<1	137			ND	ND	ND
MW-2D	Oct-98		0.14	<0.05	ND	0.12	<0.6	35.6	<1	63.9			ND	ND	ND
MW-2D	Oct-98	Duplicate	0.11	<0.05		0.078	<0.6	38.9	<1	71.2					
MW-2D	Mar-99		0.13	0.36	ND	0.18	<0.6	41	<5	50			ND	ND	ND
MW-2D	Nov-99		1.3	0.4	1.3	0.05	<0.6	1	<5	2			<1	<0.1	12
MW-2D	Apr-00		T0.44	0.41	<0.05	<0.05	<1	70	<5	120	<0.05	<0.05		<0.1	<5
MW-2D	Apr-00	Replicate	<0.04	<0.05	<0.05	<0.03	<0.9	58	<1	93	<0.1	<0.1		<0.05	<5
MW-2D	Oct-00		0.62	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-2D	Apr-01		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-2D	Apr-01	Duplicate	<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-2D	Oct-01		<0.04	<0.05	0.3	<0.03					<0.1	<0.1		<0.05	
MW-2D	Oct-01	Duplicate	<0.04	<0.05	0.28	<0.03					<0.1	<0.1		<0.05	
MW-2D	Mar-02		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-2D	Sep-02		<0.04	0.32	<0.05	<0.03	–	–	–	–	<0.1	<0.1		<0.05	–
MW-3S	Oct-91		<0.15	0.61	<0.15	<0.15	<3	120	<5	930			5.8	1.8	ND
MW-3S	Sep-93		0.81	2.2	<0.05	0.73	<0.6	95	1.2	190			12	2.3	ND
MW-3S	Sep-93	Duplicate	1.1	4	<0.05	0.88	1.4	130	<2	650			13	2.7	
MW-3S	Apr-95		0.58	2.2	<0.25	0.89	<1.2	62	<2	150			17	2.2	ND
MW-3S	Apr-95	Duplicate	0.63	2	<0.25	1	<0.6	64	<1	150			17	3.3	
MW-3S	Oct-95		0.24	<0.1	<0.1	0.24	2.3	31	<1	47			<2	<0.2	ND
MW-3S	Feb-96		0.43	0.45	<0.05	0.35	<0.6	14	<1	14			2.9	0.5	ND
MW-3S	May-96		0.47	0.94	<0.05	0.67	<0.6	22	<1	22			<1	<0.1	ND
MW-3S	May-96	Duplicate	0.5	0.94	<0.05	0.71	<0.6	23	<1	23			<1	<0.1	
MW-3S	Sep-96		0.52	<0.05	<0.05	0.48	3.3	36	1.3	57			<1	<0.1	ND
MW-3S	Dec-96		<0.25	<0.25	<0.25	<0.25	<0.6	21	<1	22			<5	<0.5	ND
MW-3S	Mar-97		<0.25	<0.25	<0.25	<0.25	0.9	28	<1	34			<5	<0.5	ND
MW-3S	Oct-97		0.8	0.9	<0.01	0.6	0.57	11.6	<0.31	35.8			<0.75	0.4	ND
MW-3S	Oct-97	Duplicate	0.4	0.7	<0.01	0.6	0.56	11.4	<0.31	35.2			<0.75	0.9	
MW-3S	Mar-98		0.46	0.89	0.09	0.53	1.9	9.4	<1	49.3			<0.75	0.46	ND
MW-3S	Oct-98		0.39	0.74	<0.04	0.26	2.65	8.15	<1	28.1			<0.23	<0.04	ND
MW-3S	Mar-99		0.35	0.99	<0.5	2.2	1.6	23	<5	59			<1	2.3	ND
MW-3S	Nov-99		0.17	0.14	<0.1	<0.1	2.5	2	<5	21			<2	<0.2	<5
MW-3S	Apr-00		0.35	0.68	<0.05	0.19	2.2	11	<5	14	<0.05	<0.05		<0.1	<5
MW-3S	Oct-00		0.37	<0.05	0.17	<0.03	<0.9	41	<1	120	<0.1	<0.1		<0.05	<5
MW-3S	Apr-01		0.54	<0.1	<0.1	<0.06	<0.9	11	<1	11	<0.2	<0.2		2.6	<5
MW-3S	Oct-01		0.55	<0.05	<0.05	<0.03	1.4	1.1	<1.2	2.1	<0.1	<0.1		<0.05	<5

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-3S	Mar-02		0.27	<0.05	<0.05	<0.03	1.9	4.3	<1.2	4.4	<0.1	<0.1		<0.05	<5.0
MW-3S	Mar-02	Duplicate	0.20	<0.05	<0.05	<0.03	1.9	4.8	<1.2	4.6	<0.1	<0.1		<0.05	<5.0
MW-3S	Sep-02		0.21	0.21	<0.05	0.16	5.3	5.7	<1.2	11	<0.1	<0.1		<0.05	<5
MW-103S	Sep-02	Duplicate	0.15	0.19	<0.05	0.13	5.7	4.4	<1.2	9.5	<0.1	<0.1		<0.05	<5
MW-3D	Oct-91		<0.25	<0.25	ND	<0.05	<6	96	ND	1100			ND	ND	ND
MW-3D	Sep-93		<0.05	<0.05	ND	<0.05	<0.6	0.9	ND	4			ND	ND	ND
MW-3D	Apr-95		<0.05	0.05	ND	<0.05	<0.6	1.7	ND	2.8			ND	ND	ND
MW-3D	Oct-95		0.05	0.07	ND	0.08	1.1	3.4	ND	12			ND	ND	ND
MW-3D	Feb-96		0.06	<0.05	ND	<0.05	<0.6	2.1	ND	4.8			ND	ND	ND
MW-3D	May-96		<0.05	<0.05	ND	<0.05	0.6	2.8	ND	2.9			ND	ND	ND
MW-3D	Sep-96		<0.05	<0.05	ND	<0.05	<0.6	8	ND	32			ND	ND	ND
MW-3D	Dec-96		<0.05	<0.05	ND	<0.05	<0.6	1.3	ND	1.5			ND	ND	ND
MW-3D	Mar-97		<0.05	<0.05	ND	<0.05	<0.6	<0.9	ND	<0.9			ND	ND	ND
MW-3D	Mar-97	Duplicate	<0.05	<0.05		<0.05	<0.6	<0.9		<0.9					
MW-3D	Oct-97		0.09	0.1	ND	<0.01	<0.25	0.79	ND	1.4			ND	ND	ND
MW-3D	Mar-98		0.07	0.06	ND	<0.05	<0.6	<0.9	ND	1			ND	ND	ND
MW-3D	Mar-98	Duplicate	0.082	0.092		<0.05	<0.6	<0.9		<0.9					
MW-3D	Oct-98		0.14	0.19	ND	<0.05	<0.06	<0.9	ND	<0.9			ND	ND	ND
MW-3D	Mar-99		0.13	0.13	ND	0.21	<0.6	<1	ND	<2			ND	ND	ND
MW-3D	Nov-99		0.11	0.14	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-3D	Apr-00		0.46	<0.25	<0.25	0.47	<1	<1	<5	<2	<0.25	<0.25		<0.5	<5
MW-3D	Oct-00		0.08	0.14	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-3D	Apr-01		0.12	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-3D	Oct-01		0.06	<0.05	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5
MW-3D	Oct-01	Duplicate	0.07	<0.05	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5
MW-3D	Mar-02		0.04	<0.05	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5.0
MW-3D	Sep-02		<0.04	0.06	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5
MW-4S	Oct-91		1.3	1.6	<0.05	5.9	<1.2	<1.8	<2	<1.8			ND	ND	ND
MW-4S	Apr-93		4.5	1.7	<0.05	5.8	2.7	15	1.1	37			ND	ND	ND
MW-4S	Sep-93		9.2	3.5	<0.05	15	22	200	9	420			ND	ND	ND
MW-4S	Apr-95		19	8.7	<1	31	23	160	<1	34			ND	ND	ND
MW-4S	Oct-95		8.7	3.6	<0.5	<0.5	5.3	5.6	<1	<0.9			ND	ND	ND
MW-4S	Feb-96		12	4.3	<0.5	15	3	9.1	<1	2.3			ND	ND	ND
MW-4S	May-96		19	11	<0.05	26	9.8	28	<1	5.1			ND	ND	ND
MW-4S	Sep-96		10	10	1	15	4.6	3.6	<1	<0.9			ND	ND	ND
MW-4S	Dec-96		17	9.3	<0.05	<0.05	15	24	<1	1.3			ND	ND	ND
MW-4S	Mar-97		8.3	<0.5	<0.5	22	16	32	<1	<0.9			ND	ND	ND
MW-4S	Oct-97		20	10	1	40	13.5	25	0.57	4			ND	ND	ND
MW-4S	Mar-98		<0.5	<0.5	<0.5	<0.5	3.6	6.9	<1	<0.9			ND	ND	ND

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-4S	Mar-98	Duplicate	NA	NA	NA	NA	NA	NA	NA	NA					
MW-4S	Oct-98		10	14	<1	20	6.24	11.1	<1	<0.9			ND	ND	ND
MW-4S	Mar-99		15	7.6	<2.5	26	22	68	<5	23			ND	ND	ND
MW-4S	Nov-99		3	2.7	<1	5.4	8.3	110	<5	340			<20	<2	<5
MW-4S	Nov-99	Duplicate	4.5	3.1	0.09	8.1	8.7	120	<5	360			<1	<0.1	<5
MW-4S	Nov-99	Replicate	4.3	2.1	<0.05	6.7	7.8	120	4.1	300	<0.1	<0.1		<0.05	<5
MW-4S	Apr-00		9.1	8.7	<0.5	24	14	25	<5	25	<0.5	<0.5		<1	<5
MW-4S	Apr-00	Replicate	7.6	7.5	<0.05	23	16	23	<10	13	<0.1	<0.1		<0.05	<50
MW-4S	Oct-00		8.8	11	<0.5	32	11	29	1.1	61	<1	<1		<0.5	<5
MW-4S	Oct-00	Duplicate	9.3	11	<0.5	33	11	29	1.2	62	<1	<1		<0.5	<5
MW-4S	Oct-00	Replicate	2.9	3.1	<0.2	8.2	10	27	<1	56			<0.5	<0.2	<1
MW-4S	Apr-01		8.4	8.4	1.4	20	11	37	2.2	100	<0.1	<0.1		<0.05	<5
MW-4S	Oct-01		3.1	9.5	<0.5	7					<1	<1		<0.5	
MW-4S	Mar-02		3.3	5.5	<0.5	5.2	1.0	4.0	<1.2	13	<1	<1		<0.5	<5.0
MW-4S	Sep-02		1.9	5.2	0.5	3.2	<0.9	<0.9	<1.2	<2.2	<1	<1		0.5	<5
MW-104S	Sep-02	Duplicate	2.4	6.5	0.5	3.8	<0.9	<0.9	<1.2	<2.2	1	1		0.5	<5
MW-4D	Oct-91		3.2	4.9	ND	13	17	360	10	1100			ND	ND	ND
MW-4D	Apr-93		5.7	2.4	ND	16	6	150	6.8	470			ND	ND	ND
MW-4D	Sep-93		5.3	3.5	ND	13	10	130	12	500			ND	ND	ND
MW-4D	Apr-95		4.5	3.5	ND	10	5.4	380	5.5	1100			ND	ND	ND
MW-4D	Oct-95		2.8	5.6	ND	7.1	3.6	220	1.4	590			ND	ND	ND
MW-4D	Feb-96		1.3	1.1	ND	2.9	3.3	170	1.3	400			ND	ND	ND
MW-4D	May-96		2.5	4.1	ND	6.4	3.8	320	2.6	910			ND	ND	ND
MW-4D	Sep-96		3.4	4.5	ND	7.1	4.6	260	2.2	740			ND	ND	ND
MW-4D	Dec-96		6.2	4.7	ND	<0.05	6.1	290	2.6	700			ND	ND	ND
MW-4D	Mar-97		4.4	<0.5	ND	<0.5	8	240	<10	630			ND	ND	ND
MW-4D	Oct-97		4	2	ND	10	3.6	98.2	1.1	304.8			ND	ND	ND
MW-4D	Mar-98		<0.1	<0.1	ND	<0.1	2.4	117	<1.6	223.9			ND	ND	ND
MW-4D	Oct-98		3.1	3.6	ND	9.2	<0.6	123	1.94	341.3			ND	ND	ND
MW-4D	Mar-99		4.1	3.1	ND	8.6	17	220	9	570			ND	ND	ND
MW-4D	Nov-99		8.4	11	<0.3	14	2.9	2	<5	<2			<5	<0.5	<5
MW-4D	Apr-00		3.3	2.9	<0.05	7.5	13	250	<50	620	<0.05	<0.05		<0.1	<50
MW-4D	Apr-00	Duplicate	3.6	3.4	<0.05	1.5	10	230	11	560	<0.05	<0.05		<0.1	<5
MW-4D	Apr-00	Replicate	3.9	<0.05	<0.05	6.6	12	210	<10	480	<0.1	<0.1		<0.05	<50
MW-4D	Oct-00		4.4	3.3	<0.5	9.4	19	230	10	620	<1	<1		<0.5	<5
MW-4D	Apr-01		4.3	3.3	<0.05	6.7	19	230	13	560	<0.1	<0.1		<0.05	<5
MW-4D	Oct-01		5.1	3.6	<0.5	10					<1	<1		<0.5	
MW-4D	Mar-02		3.0	<0.5	<0.5	7.4	13	130	7.8	290	<1	<1		<0.5	<10
MW-4D	Sep-02		2.2	2.2	0.5	4.5	14	120	6	330	1	1		0.5	25

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-5S	Sep-93		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Apr-95		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Oct-95		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Feb-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	May-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Sep-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Dec-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Mar-97		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Oct-97		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Mar-98		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Mar-99		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-5S	Nov-99		<0.05	<0.05	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-5S	Apr-00		<0.05	<0.05	<0.05	<0.05	<1	<1	<5	<2	<0.05	<0.05		<0.1	<5
MW-5S	Apr-00	Replicate	<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-5S	Oct-00		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-5S	Apr-01		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-5S	Oct-01		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-5S	Mar-02		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-5S	Sep-02		<0.04	<0.05	<0.05	<0.03	--	--	--	--	<0.1	<0.1		<0.05	--
MW-5D	Sep-93		<0.05	<0.05	ND	<0.05	<0.6	<0.9	<1	<0.9			ND	ND	ND
MW-5D	Apr-95		<0.05	0.15	ND	0.08	<0.6	<0.9	<1	13			ND	ND	ND
MW-5D	Oct-95		<0.05	<0.05	ND	<0.05	<0.6	<0.9	<1	<0.9			ND	ND	ND
MW-5D	Feb-96		<0.05	<0.05	ND	<0.05	<0.6	<0.9	<1	<0.9			ND	ND	ND
MW-5D	May-96		<0.05	<0.05	ND	<0.05	<0.6	<0.9	<1	<0.9			ND	ND	ND
MW-5D	Sep-96		<0.05	0.06	ND	<0.05	<0.6	<0.9	<1	<0.9			ND	ND	ND
MW-5D	Dec-96		<0.05	0.11	ND	<0.05	<0.6	<0.9	<1	<0.9			ND	ND	ND
MW-5D	Mar-97		<0.05	<0.05	ND	<0.05	<0.6	2	<1	<0.9			ND	ND	ND
MW-5D	Oct-97		0.02	0.2	ND	0.05	0.3	21	0.43	95.8			ND	ND	ND
MW-5D	Mar-98		0.05	0.19	ND	<0.05	<0.6	31.4	<1	145			ND	ND	ND
MW-5D	Mar-99		<0.3	0.16	ND	0.23	<0.6	5	<5	13			ND	ND	ND
MW-5D	Mar-99	Duplicate	<0.3	0.16		0.19	<0.6	5	<5	13					
MW-5D	Nov-99		<0.05	<0.05	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-5D	Nov-99	Duplicate	<0.05	<0.05	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-5D	Nov-99	Replicate	<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-5D	Apr-00		0.11	0.22	<0.05	0.13	<1	<1	<5	38	<0.05	<0.05		<0.1	<5
MW-5D	Apr-00	Replicate	<0.04	<0.05	<0.05	<0.03	<0.9	17	<1	35	<0.1	<0.1		<0.05	<5
MW-5D	Oct-00		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-5D	Oct-00	Duplicate	<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-5D	Oct-00	Replicate	<0.02	<0.02	<0.02	<0.02	<1	<1	<1	<3			<0.05	<0.02	<1

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-5D	Apr-01		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-5D	Apr-01	Duplicate	<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-5D	Oct-01		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-5D	Mar-02		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-5D	Sep-02		<0.04	<0.05	<0.05	<0.03	–	–	–	–	<0.1	<0.1		<0.05	--
MW-6S	Sep-93		ND	ND	ND	ND	1.1	ND	ND	ND			<1	ND	ND
MW-6S	Apr-95		ND	ND	ND	ND	<0.6	ND	ND	ND			<1	ND	ND
MW-6S	Oct-95		ND	ND	ND	ND	<0.6	ND	ND	ND			1.34	ND	ND
MW-6S	Feb-96		ND	ND	ND	ND	<0.6	ND	ND	ND			<1	ND	ND
MW-6S	May-96		ND	ND	ND	ND	<0.6	ND	ND	ND			<1	ND	ND
MW-6S	Sep-96		ND	ND	ND	ND	<0.6	ND	ND	ND			<1	ND	ND
MW-6S	Dec-96		ND	ND	ND	ND	<0.6	ND	ND	ND			<1	ND	ND
MW-6S	Mar-97		ND	ND	ND	ND	<0.6	ND	ND	ND			<1	ND	ND
MW-6S	Oct-97		ND	ND	ND	ND	<0.25	ND	ND	ND			<0.75	ND	ND
MW-6S	Mar-98		ND	ND	ND	ND	<0.6	ND	ND	ND			<0.75	ND	ND
MW-6S	Mar-98	Duplicate					<0.6						<0.76		
MW-6S	Mar-99		ND	ND	ND	ND	<0.6	ND	ND	ND			<1	ND	ND
MW-6S	Apr-00		<0.05	<0.05	<0.05	<0.05	<1	<1	<5	<2	<0.05	<0.05		<0.1	<5
MW-6S	Oct-00		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-6D	Sep-93		ND	ND	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-6D	Apr-95		ND	ND	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-6D	Oct-95		ND	ND	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-6D	Feb-96		ND	ND	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-6D	May-96		ND	ND	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-6D	Sep-96		ND	ND	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-6D	Dec-96		ND	ND	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-6D	Mar-97		ND	ND	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-6D	Oct-97		ND	ND	ND	ND	ND	ND	ND	ND			<0.75	ND	ND
MW-6D	Mar-98		ND	ND	ND	ND	ND	ND	ND	ND			<0.75	ND	ND
MW-6D	Mar-99		ND	ND	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-6D	Apr-00		0.11	<0.05	<0.05	<0.05	<1	<1	<5	<2	<0.05	<0.05		<0.1	<5
MW-6D	Oct-00		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-6D	Oct-00	Duplicate	<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-6D	Oct-00	Replicate	<0.02	<0.02	<0.02	<0.02	<1	<1	<1	<3			<0.05	<0.02	<1
MW-7S	Sep-93		ND	<0.05	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-7S	Apr-95		ND	<0.1	ND	ND	ND	ND	ND	ND			3.4	ND	ND
MW-7S	Oct-95		ND	<0.1	ND	ND	ND	ND	ND	ND			8.2	ND	ND
MW-7S	Oct-95	Duplicate		<0.1									6.5		
MW-7S	Feb-96		ND	<0.05	ND	ND	ND	ND	ND	ND			4.7	ND	ND

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-7S	May-96		ND	<0.1	ND	ND	ND	ND	ND	ND			3.4	ND	ND
MW-7S	Sep-96		ND	<0.1	ND	ND	ND	ND	ND	ND			11	ND	ND
MW-7S	Sep-96	Duplicate		<0.1									9.2		
MW-7S	Dec-96		ND	<0.05	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-7S	Mar-97		ND	<0.1	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-7S	Oct-97		ND	0.06	ND	ND	ND	ND	ND	ND			<0.75	ND	ND
MW-7S	Mar-98		ND	<0.05	ND	ND	ND	ND	ND	ND			<0.77	ND	ND
MW-7S	Mar-99		ND	<0.05	ND	ND	ND	ND	ND	ND			<1	ND	ND
MW-7S	Apr-00		<0.05	<0.05	<0.05	<0.05	<1	<1	<5	<2	<0.05	0.12		<0.1	<5
MW-7S	Apr-01						<0.9	<1.1	<1	<1.1					<5
MW-7S	Mar-02						<0.9	<0.9	<1.2	<2.2					<5.0
MW-7D	Sep-93		ND	<0.05	ND	ND	ND	<0.9	ND	<0.9			ND	ND	ND
MW-7D	Apr-95		ND	<0.05	ND	ND	ND	<0.9	ND	<0.9			ND	ND	ND
MW-7D	Oct-95		ND	<0.05	ND	ND	ND	<0.9	ND	<0.9			ND	ND	ND
MW-7D	Feb-96		ND	<0.05	ND	ND	ND	1	ND	4.8			ND	ND	ND
MW-7D	Feb-96	Duplicate		<0.05				<0.9		<0.9					
MW-7D	May-96		ND	<0.05	ND	ND	ND	<0.9	ND	24			ND	ND	ND
MW-7D	Sep-96		ND	<0.05	ND	ND	ND	<0.9	ND	5.1			ND	ND	ND
MW-7D	Dec-96		ND	<0.05	ND	ND	ND	1.1	ND	1.2			ND	ND	ND
MW-7D	Dec-96	Duplicate		<0.05				<0.9		1.1					
MW-7D	Mar-97		ND	<0.05	ND	ND	ND	<0.9	ND	<0.9			ND	ND	ND
MW-7D	Oct-97		ND	0.04	ND	ND	ND	<0.43	ND	<1			ND	ND	ND
MW-7D	Mar-98		ND	<0.05	ND	ND	ND	<0.9	ND	<0.9			ND	ND	ND
MW-7D	Mar-99		ND	<0.3	ND	ND	ND	<1	ND	<2			ND	ND	ND
MW-7D	Apr-00		<0.05	<0.05	<0.05	<0.05	<1	<1	<5	<2	<0.05	<0.05		<0.1	<5
MW-7D	Apr-01						<0.9	<1.1	<1	<1.1					<5
MW-7D	Mar-02						<0.9	<0.9	<1.2	<2.2					<5.0
MW-8S	Sep-93		0.14	0.61	<0.05	0.09	6	2000	9.2	5900			<1	<0.1	ND
MW-8S	Apr-95		0.05	<0.05	<0.05	0.11	1	83	<1	160			1.1	0.15	ND
MW-8S	Oct-95		<0.05	<0.05	<0.05	<0.05	<0.6	17	<1	46			<1	<0.1	ND
MW-8S	Feb-96		<0.05	<0.05	<0.05	<0.05	2.3	60	1.7	490			<1	<0.1	ND
MW-8S	May-96		<0.05	<0.05	<0.05	0.05	1.6	80	1.5	710			<1	<0.1	ND
MW-8S	Sep-96		<0.05	<0.05	<0.05	<0.05	<0.6	<0.9	<1	19			<1	<0.1	ND
MW-8S	Dec-96		<0.05	<0.05	<0.05	<0.05	0.8	8.5	<1	30			<1	<0.1	ND
MW-8S	Mar-97		<0.05	<0.05	<0.05	<0.05	0.7	17	<1	75			<1	<0.1	ND
MW-8S	Oct-97		0.03	0.04	0.03	0.02	0.57	6.6	<0.31	9.2			<0.78	<0.01	ND
MW-8S	Mar-98		<0.05	<0.05	<0.01	<0.05	<0.6	1.3	<1	10.8			<0.75	<0.01	ND
MW-8S	Oct-98		<0.05	<0.05	<0.04	<0.05	<0.6	<0.9	<1	<0.9			<0.23	<0.04	ND
MW-8S	Mar-99		0.02	<0.05	<0.05	0.09	<0.6	1	<5	<2			<1	<0.1	ND

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-8S	Nov-99		<0.05	<0.05	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-8S	Apr-00		0.09	<0.05	<0.05	<0.05	<1	11	<5	14	<0.05	<0.05		0.1	<5
MW-8S	Oct-00		<0.04	0.22	0.06	<0.03	<0.9	9.7	<1	22	<0.1	<0.1		<0.05	<5
MW-8S	Apr-01		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-8S	Oct-01		<0.04	0.29	<0.05	0.09					<0.1	<0.1		<0.05	
MW-8S	Mar-02		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-8S	Sep-02		<0.04	<0.05	<0.05	<0.03	–	–	–	–	<0.1	<0.1		<0.05	–
MW-8D	Sep-93		<0.05	<0.05	ND	<0.05	<0.6	26	<1	87			ND	<0.1	ND
MW-8D	Apr-95		0.16	<0.05	ND	<0.05	2.3	21	<1	79			ND	0.12	ND
MW-8D	Oct-95		0.08	<0.05	ND	<0.05	<0.6	20	<1	15			ND	<0.1	ND
MW-8D	Feb-96		<0.05	<0.05	ND	<0.05	0.6	6.1	<1	85			ND	<0.1	ND
MW-8D	May-96		0.08	0.06	ND	<0.05	<0.6	7	1.2	120			ND	<0.1	ND
MW-8D	May-96	Duplicate	0.06	0.06		<0.05	<0.6	6.1	1.1	120				<0.1	
MW-8D	Sep-96		0.06	0.05	ND	<0.05	<0.6	1.8	<1	23			ND	<0.1	ND
MW-8D	Dec-96		<0.05	<0.05	ND	<0.05	0.9	6.7	1.3	80			ND	<0.1	ND
MW-8D	Mar-97		<0.05	<0.05	ND	<0.05	<0.6	4.5	1.3	54			ND	<0.1	ND
MW-8D	Oct-97		0.2	0.04	ND	0.02	0.58	3.8	0.81	40.3			ND	0.05	ND
MW-8D	Mar-98		0.36	<0.05	ND	<0.05	0.77	4.3	<1	16.8			ND	0.055	ND
MW-8D	Oct-98		0.41	<0.05	ND	0.087	<0.6	11.5	<1	29.24			ND	<0.04	ND
MW-8D	Mar-99		0.19	0.08	ND	0.1	<0.6	4	<5	7			ND	<0.1	ND
MW-8D	Nov-99		0.05	0.06	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-8D	Apr-00		0.15	0.07	<0.05	<0.05	<1	3	<5	3.3	<0.05	<0.05		0.11	<5
MW-8D	Oct-00		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-8D	Apr-01		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-8D	Oct-01		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-8D	Mar-02		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-8D	Sep-02		<0.04	<0.05	<0.05	<0.03	–	–	–	–	<0.1	<0.1		<0.05	–
MW-9D	Sep-93		0.25	0.32	<0.05	0.41	2.2	2	<1	7.4			ND	3	<5
MW-9D	Apr-95		0.21	0.74	<0.05	0.34	2.9	1.7	<1	2.8			ND	0.71	<5
MW-9D	Apr-95	Duplicate	0.24	0.78	<0.05	0.33	2.6	3.6	4	<0.9				0.55	<5
MW-9D	Oct-95		0.27	1.3	<0.05	0.87	<0.6	<0.9	<1	<0.9			ND	0.87	<5
MW-9D	Feb-96		0.31	1.5	<0.05	0.63	1.9	2.8	<1	<0.9			ND	1.1	3.9
MW-9D	May-96		0.57	3.1	<0.05	1.2	2.2	2.6	<1	<0.9			ND	<0.1	<5
MW-9D	Sep-96		0.46	3.6	<0.05	1.6	0.8	1.1	<1	<0.9			ND	<0.1	<5
MW-9D	Dec-96		0.63	3.5	<0.05	0.77	1.1	<0.9	<1	<0.9			ND	<0.1	5.9
MW-9D	Dec-96	Duplicate	0.68	3.9	<0.05	0.81	1.1	<0.9	<1	<0.9				<0.1	<5
MW-9D	Mar-97		<0.5	6.7	<0.5	<0.5	0.6	<0.9	<1	<0.9			ND	<1	<5
MW-9D	Mar-97	Duplicate	<0.5	5.3	<0.5	<0.5	0.6	<0.9	<1	<0.9				<1	<5
MW-9D	Oct-97		0.9	3	<0.05	0.8	0.47	<0.43	<0.31	0.66			ND	0.2	4.6

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-9D	Mar-98		0.47	3.3	0.019	0.6	<0.6	<0.9	<1	<0.9			ND	0.18	<5
MW-9D	Oct-98		1.2	3.7	<0.04	0.81	0.61	<0.9	<1	<0.9			ND	0.21	<5
MW-9D	Mar-99		0.4	2	<0.1	0.57	<0.6	<1	<5	<2			ND	0.12	<5
MW-9D	Nov-99		0.28	2.3	<0.3	0.31	<0.6	<1	<5	<2			<5	<0.5	<5
MW-9D	Nov-99	Replicate	0.25	1.13	0.62	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		2.1	<5
MW-9D	Apr-00		0.56	1	<0.25	0.67	<1	<1	<5	<2	<0.25	<0.25		0.54	<5
MW-9D	Oct-00		0.08	0.31	<0.05	0.8	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-9D	Apr-01		<0.04	0.38	<0.05	0.2	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-9D	Oct-01		0.06	0.34	<0.05	0.82	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		0.73	<5
MW-9D	Mar-02		0.06	0.33	<0.05	0.29	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5.0
MW-9D	Sep-02		0.08	0.39	0.81	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		0.37	<5
MW-10S	Sep-93		2	70	1.2	37	<0.6	ND	ND	ND			<1	<0.1	ND
MW-10S	Apr-95		3.6	47	1.6	16	8.8	ND	ND	ND			<10	<1	ND
MW-10S	Oct-95		2.6	28	0.98	12	3.2	ND	ND	ND			<10	<1	ND
MW-10S	Feb-96		4	17	3.4	9	2.6	ND	ND	ND			<10	<1	ND
MW-10S	Feb-96	Duplicate	5	19	4.1	10	2.7						<10	<1	
MW-10S	May-96		6.8	32	6.6	16	3.9	ND	ND	ND			7.5	<0.1	ND
MW-10S	Sep-96		<4.2	<15	<3.8	<14	4.7	ND	ND	ND			<1	<0.1	ND
MW-10S	Dec-96		4.7	23	3.4	9.3	3.8	ND	ND	ND			<1	<0.1	ND
MW-10S	Mar-97		5.7	46	3.7	12	2.2	ND	ND	ND			<10	<1	ND
MW-10S	Oct-97		0.8	8	0.5	3	3.4	ND	ND	ND			<0.77	<0.1	ND
MW-10S	Mar-98		2.2	19	1.1	6.6	1	ND	ND	ND			<0.75	<0.2	ND
MW-10S	Mar-98	Duplicate	1.9	17	1.1	6.5	1.1						<0.75	<0.3	
MW-10S	Oct-98		3.5	24	2.3	9	2.69	ND	ND	ND			<0.23	0.73	ND
MW-10S	Mar-99		2.7	23	1.8	9	1.4	ND	ND	ND			<20	<2	ND
MW-10S	Nov-99		1	21	<1	4.7	1.3	<1	<5	<2			<20	<2	<5
MW-10S	Apr-00		2.4	15	1.8	4.7	<1	<1	<5	<2	<1	<1		<2	<5
MW-10S	Oct-00		1.8	19	1.1	6.4	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-10S	Apr-01		1.6	24	2.1	6.5	<0.9	<1.1	<1	<1.1	<0.1	2.7		<0.05	<5
MW-10S	Oct-01		1.8	59	<1.25	19	<0.9	<0.9	<1.2	<2.2	<2.5	<2.5		<1.25	<5
MW-10S	Oct-01	Duplicate	1.6	60	<1.25	19	<0.9	<0.9	<1.2	<2.2	<2.5	<2.5		<1.25	<5
MW-10S	Mar-02		0.91	29	<1	8.7	<0.9	<0.9	<1.2	<2.2	<2	<2		<1	<5.0
MW-10S	Sep-02		0.59	27	0.28	5.9	<0.9	<0.9	<1.2	<2.2	1	1		0.5	<5
MW-10D	Sep-93		1	6.2	1	12	2.4	1.4	ND	7			ND	ND	<5
MW-10D	Sep-93	Duplicate	1.2	6	1.1	12	2.7	1.9		8.6					<5
MW-10D	Apr-95		0.55	4.6	0.87	0.59	20	1.5	ND	5.8			ND	ND	20
MW-10D	Oct-95		<0.05	2.6	<0.05	0.07	4.7	1.1	ND	2.1			ND	ND	11
MW-10D	Feb-96		0.15	1.2	0.09	0.11	2	<0.9	ND	<0.9			ND	ND	<2
MW-10D	May-96		<0.05	1.27	<0.05	0.05	2	<0.9	ND	<0.9			ND	ND	67

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-10D	Sep-96		0.05	0.05	0.05	0.05	2.5	<0.9	ND	<0.9			ND	ND	81
MW-10D	Dec-96		<0.05	<0.05	<0.05	<0.05	4.6	<0.9	ND	<0.9			ND	ND	160
MW-10D	Mar-97		<0.05	<0.05	<0.05	<0.05	2.5	<0.9	ND	<0.9			ND	ND	120
MW-10D	Oct-97		<0.01	0.3	<0.01	0.02	5.1	<0.43	ND	<1			ND	ND	298
MW-10D	Mar-98		<0.05	0.19	0.015	<0.05	3	<0.9	ND	<0.9			ND	ND	246
MW-10D	Oct-98		0.065	0.6	0.086	0.086	5.56	<0.9	ND	<0.9			ND	ND	289
MW-10D	Mar-99		<0.3	0.12	<0.3	<0.3	5.4	<1	ND	<2			ND	ND	210
MW-10D	Nov-99		<0.05	0.63	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-10D	Apr-00		<0.05	<0.05	<0.05	<0.05	2.7	<1	<5	<2	<0.05	<0.05		<0.1	120
MW-10D	Oct-00		<0.04	0.84	<0.05	0.07	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	17
MW-10D	Apr-01		<0.04	0.19	<0.05	<0.03	1.6	<1.1	<1	<1.1	<0.1	<0.1		<0.05	37
MW-10D	Oct-01		<0.04	<0.05	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5
MW-10D	Mar-02		<0.04	0.15	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5.0
MW-10D	Mar-02	Duplicate	<0.04	0.17	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5.0
MW-10D	Sep-02		<0.04	0.05	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5
MW-11	Sep-93		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Apr-95		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Oct-95		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Feb-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	May-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Sep-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Dec-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Mar-97		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Oct-97		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Mar-98		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Mar-99		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-11	Apr-00		<0.05	<0.05	<0.05	<0.05	<1	<1	<5	<2	<0.05	<0.05		<0.1	<5
MW-11	Mar-02		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-12	Sep-93		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.1	ND
MW-12	Sep-93	Duplicate												<0.1	
MW-12	Apr-95		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.1	ND
MW-12	Oct-95		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.1	ND
MW-12	Feb-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.1	ND
MW-12	May-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.1	ND
MW-12	Sep-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.1	ND
MW-12	Dec-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.1	ND
MW-12	Mar-97		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.1	ND
MW-12	Oct-97		ND	ND	ND	ND	ND	ND	ND	ND			ND	0.04	ND
MW-12	Mar-98		ND	ND	ND	ND	ND	ND	ND	ND			ND	0.03	ND

Appendix B. Summary of COC analyses, Chevron Orlando, Florida

Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-12	Oct-98		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.04	ND
MW-12	Mar-99		ND	ND	ND	ND	ND	ND	ND	ND			ND	<0.1	ND
MW-12	Nov-99		<0.05	<0.05	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-12	Apr-00		<0.05	<0.05	<0.05	0.1	<1	<1	<5	<2	<0.05	<0.05		0.11	<5
MW-12	Oct-00		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-12	Oct-00	Duplicate	<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-12	Oct-00	Replicate	<0.02	<0.02	<0.02	<0.02	<1	<1	<1	<3			<0.05	<0.02	<1
MW-12	Apr-01		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-12	Mar-02		<0.04	<0.05	<0.05	<0.03					<0.1	<0.1		<0.05	
MW-15	Feb-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-15	May-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-15	Sep-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-15	Dec-96		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-15	Mar-97		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-15	Oct-97		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-15	Mar-98		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-15	Oct-98		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-15	Mar-99		ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND
MW-15	Nov-99		<0.05	<0.05	<0.05	<0.05	<0.6	<1	<5	<2			<1	<0.1	<5
MW-15	Apr-00		<0.05	<0.05	<0.05	<0.05	<1	<1	<5	<2	<0.05	<0.05		<0.1	<5
MW-15	Oct-00		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-15	Apr-01		<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-15	Oct-01		0.07	<0.05	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5
MW-15	Mar-02		<0.04	<0.05	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5.0
MW-15	Mar-02	Duplicate	<0.04	<0.05	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5.0
MW-15	Sep-02		<0.04	<0.05	<0.05	<0.03	<0.9	<0.9	<1.2	<2.2	<0.1	<0.1		<0.0	<5.0
MW-16S	Oct-97		5	20	5	8	2.4	<0.43	ND	2.1			ND	<0.3	<0.63
MW-16S	Mar-98		0.84	6.7	0.88	2.1	<0.6	<0.9	ND	<0.9			ND	<0.1	<5
MW-16S	Oct-98		1	8.3	1.3	2.8	<0.6	<0.9	ND	<0.9			ND	<0.04	<5
MW-16S	Mar-99		4.1	1.7	2.8	6.3	2.2	<1	ND	<2			ND	<1	<5
MW-16S	Nov-99		<0.05	3.2	<0.05	0.49	<0.6	<1	<5	<2			<1	<0.1	<5
MW-16S	Apr-00		1.9	17	1.9	4.4	<1	<1	<5	<2	<0.25	<0.25		<0.5	<5
MW-16S	Oct-00		8.9	36	7.8	13	2	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-16S	Apr-01		1.8	27	1.1	8.5	<0.9	<1.1	<1	<1.1	<0.1	3.3		<0.05	<5
MW-16S	Apr-01	Duplicate	1.7	26	1	7.7	<0.9	<1.1	<1	<1.1	<0.1	2.9		<0.05	<5
MW-16S	Oct-01		0.9	8.3	0.6	2					<1	<1		<0.5	
MW-16S	Oct-01	Duplicate	0.9	8	0.6	2					<1	<1		<0.5	
MW-16S	Mar-02		0.83	7.0	0.58	2.2	<0.9	<0.9	<1.2	<2.2	<1	<1		<0.5	<5.0
MW-16S	Sep-02		0.77	4.8	0.51	1.3	<0.9	<0.9	<1.2	<2.2	1	1		0.5	<5

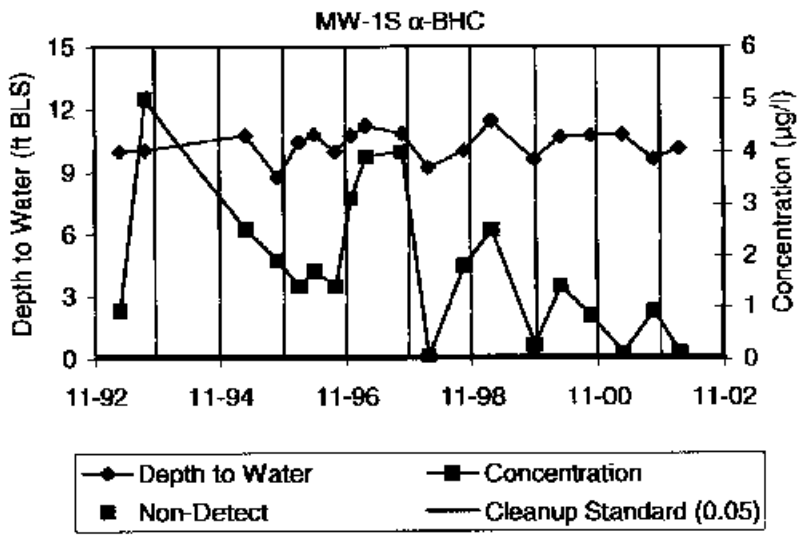
Appendix B. Summary of COC analyses, Chevron Orlando, Florida

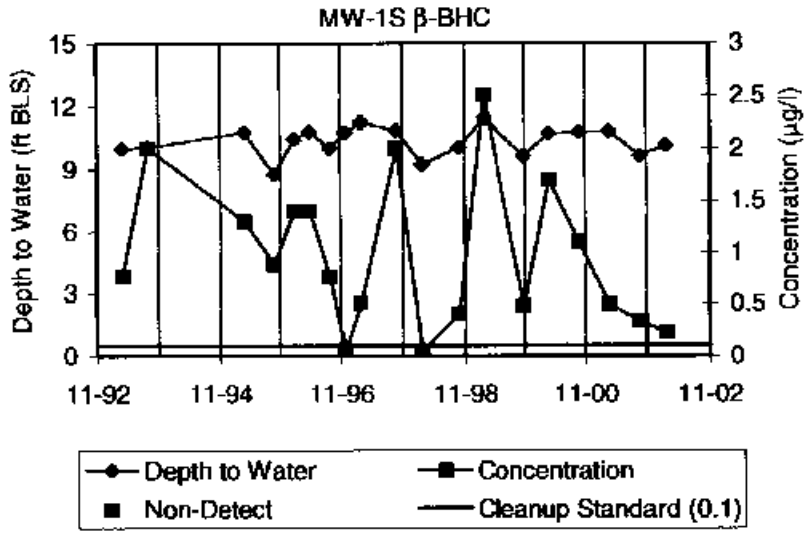
Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-16D	Oct-97		1	10	0.5	5	5.4	0.55	ND	<1			ND	0.3	40.6
MW-16D	Mar-98		5.2	17	5.6	8.3	5.5	<0.9	ND	<0.9			ND	<0.01	43.9
MW-16D	Oct-98		4.5	21	4.5	8.3	8.02	1.41	ND	2.44			ND	<1	46.5
MW-16D	Mar-99		1.9	15	1.2	6.5	8	<1	ND	<2			ND	<1	46
MW-16D	Mar-99	Duplicate	1.6	13	1.1	5.7	8	<1		<2				<1	45
MW-16D	Nov-99		<0.5	4.1	<0.5	0.57	2.2	<1	<5	<2			<10	<1	48
MW-16D	Apr-00		0.74	4.4	0.63	1.1	3.2	<1	<5	<2	<0.25	<0.25		<0.5	43
MW-16D	Oct-00		<0.04	0.31	<0.05	<0.03	3.7	<1.1	<1	<1.1	<0.1	<0.1		<0.05	11
MW-16D	Apr-01		<0.04	1.8	<0.05	0.29	3.3	<1.1	<1	<1.1	<0.1	<0.1		<0.05	5.4
MW-16D	Oct-01		0.86	12	0.7	3.9					<0.1	<0.1		<0.05	
MW-16D	Mar-02		0.21	5.2	<0.05	1.1	1.3	<0.9	<1.2	<2.2	<1	<1		<0.5	<5.0
MW-16D	Mar-02	Duplicate	0.25	5.9	<0.05	1.3	1.4	<0.9	<1.2	<2.2	<1	<1		<0.5	<5.0
MW-16D	Sep-02		0.76	0.76	0.04	0.13	2	<0.9	<1.2	<2.2	<0.1	<0.1		<0.05	<5
MW-17	Oct-98		7.5	<ND	3.8	14	1.76	95.7	ND	51			ND	ND	ND
MW-17	Oct-98	Duplicate	8.5	<ND	4.8	16	1.74	89.9		46.8					
MW-17	Mar-99		5.6	5.3	1.9	11	5.1	11	ND	2			ND	ND	ND
MW-17	Nov-99		0.68	1.3	<0.5	1.7	<0.6	2	<5	5			<10	<1	<5
MW-17	Apr-00		5.9	4.5	2.4	9.7	2	28	<5	2.3	T2.3	<0.25		<0.5	<5
MW-17	Apr-00	Duplicate	5.9	5	2.3	10	1.9	27	<5	<2	T2.2	<0.05		<0.1	<5
MW-17	Oct-00		5.5	4.4	1.4	9.5	2	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-17	Apr-01		1.9	2.1	<0.05	6.5	4.8	3.1	<1	<1.1	<0.1	1.5		<0.05	<5
MW-17	Oct-01		1.6	2.2	0.48	4.1					<1	<1		<0.5	
MW-17	Mar-02		2.4	0.94	0.28	2.7	<0.9	<0.9	<1.2	<2.2	<1	<1		<0.5	<5.0
MW-17	Sep-02		1.6	1.3	0.37	1.9	<0.9	<0.9	<1.2	<2.2	1	1		0.5	<5
MW-D	Oct-90		<0.01	<0.01	<0.01	<0.01	ND	ND	ND	ND			ND	ND	ND
MW-D	Oct-90	Duplicate	<0.01	<0.01	<0.01	<0.01									
MW-D	Oct-91		<0.05	<0.05	<0.05	<0.05	ND	ND	ND	ND			ND	ND	ND
MW-D	Apr-93		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Sep-93		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Apr-95		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Oct-95		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Feb-96		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	May-96		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Sep-96		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Dec-96		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Mar-97		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Oct-97		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Mar-98		ND	ND	ND	<ND	ND	ND	ND	ND			ND	ND	ND
MW-D	Mar-99		ND	ND	ND	0.08	ND	ND	ND	ND			ND	ND	ND

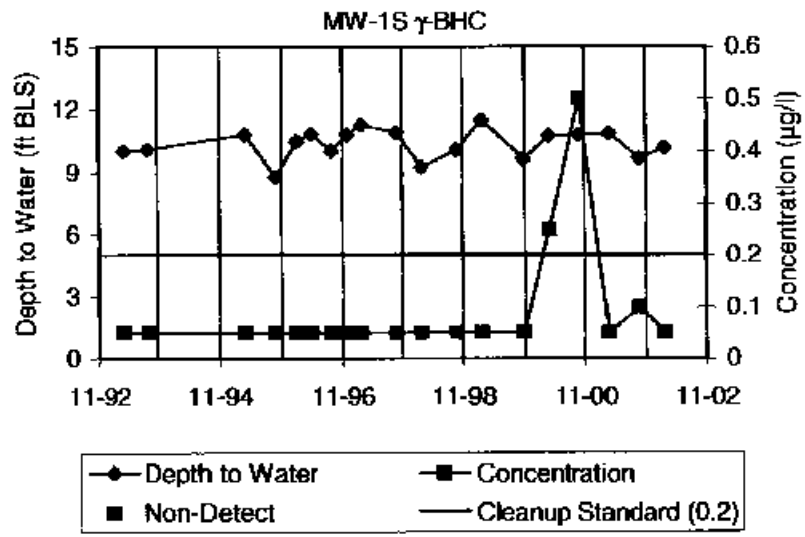
Appendix B. Summary of COC analyses, Chevron Orlando, Florida

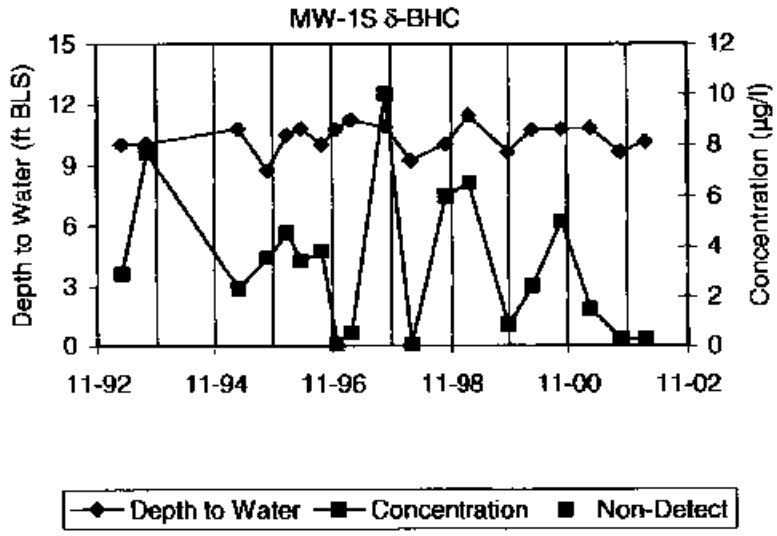
Well ID	Date	Duplicate	α-BHC µg/l	β-BHC µg/l	γ-BHC µg/l	δ-BHC µg/l	Benzene µg/l	Ethylbenzene µg/l	Toluene µg/l	Xylenes µg/l	α-Chlordane µg/l	γ-Chlordane µg/l	Chlordane µg/l	DDD µg/l	MTBE µg/l
MW-D	Apr-00		<0.05	<0.05	<0.05	<0.05	<1	<1	<5	<2	<0.05	<0.05		<0.1	<5
MW-D	Apr-00	Replicate	<0.04	<0.05	<0.05	<0.03	<0.9	<1.1	<1	<1.1	<0.1	<0.1		<0.05	<5
MW-D	Apr-01						<0.9	<1.1	<1	<1.1					<5
MW-D	Mar-02						<0.9	<0.9	<1.2	<2.2					<5.0

Appendix C Depth to Water vs. Concentration at Chevron Orlando, Florida

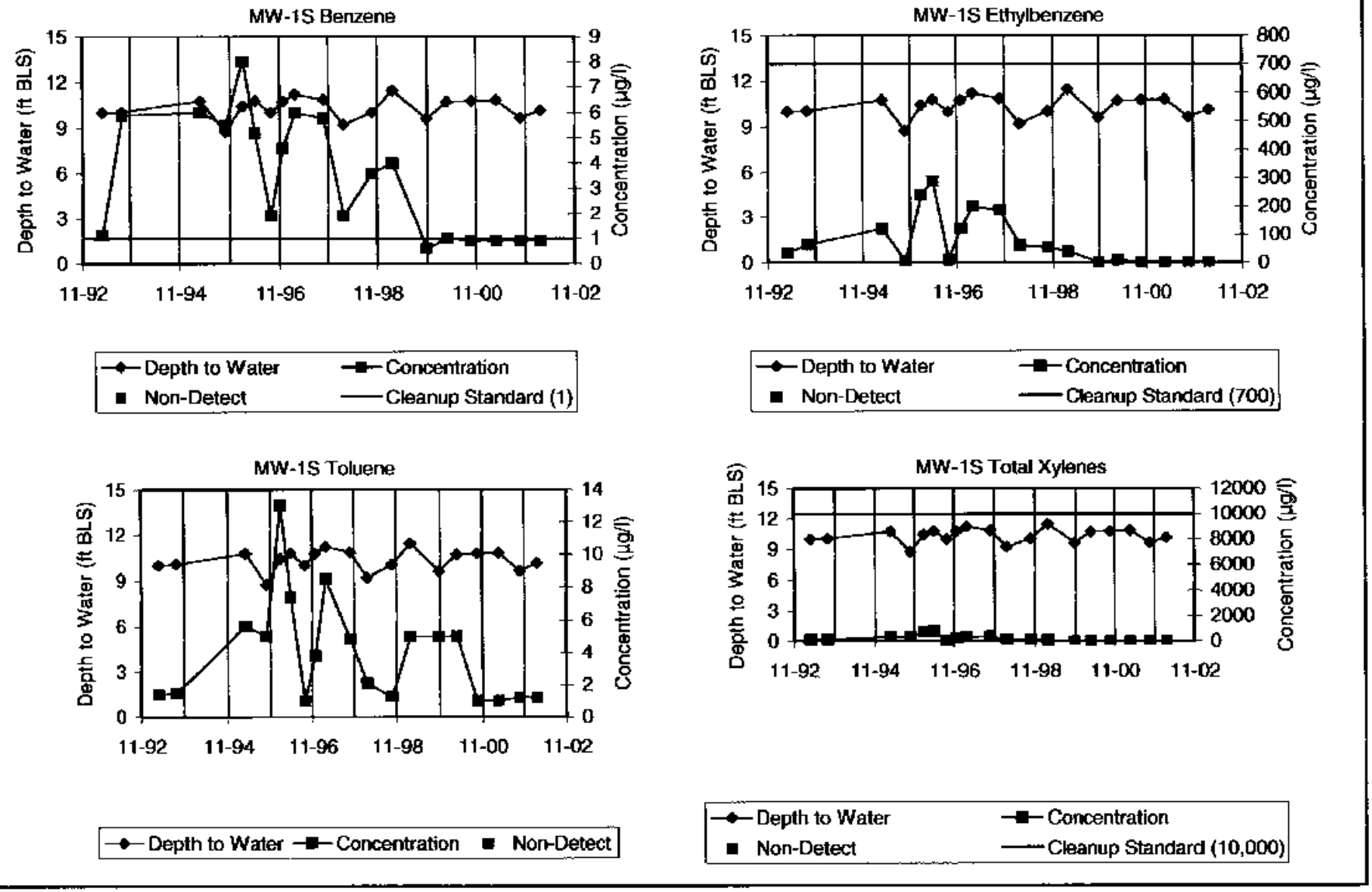




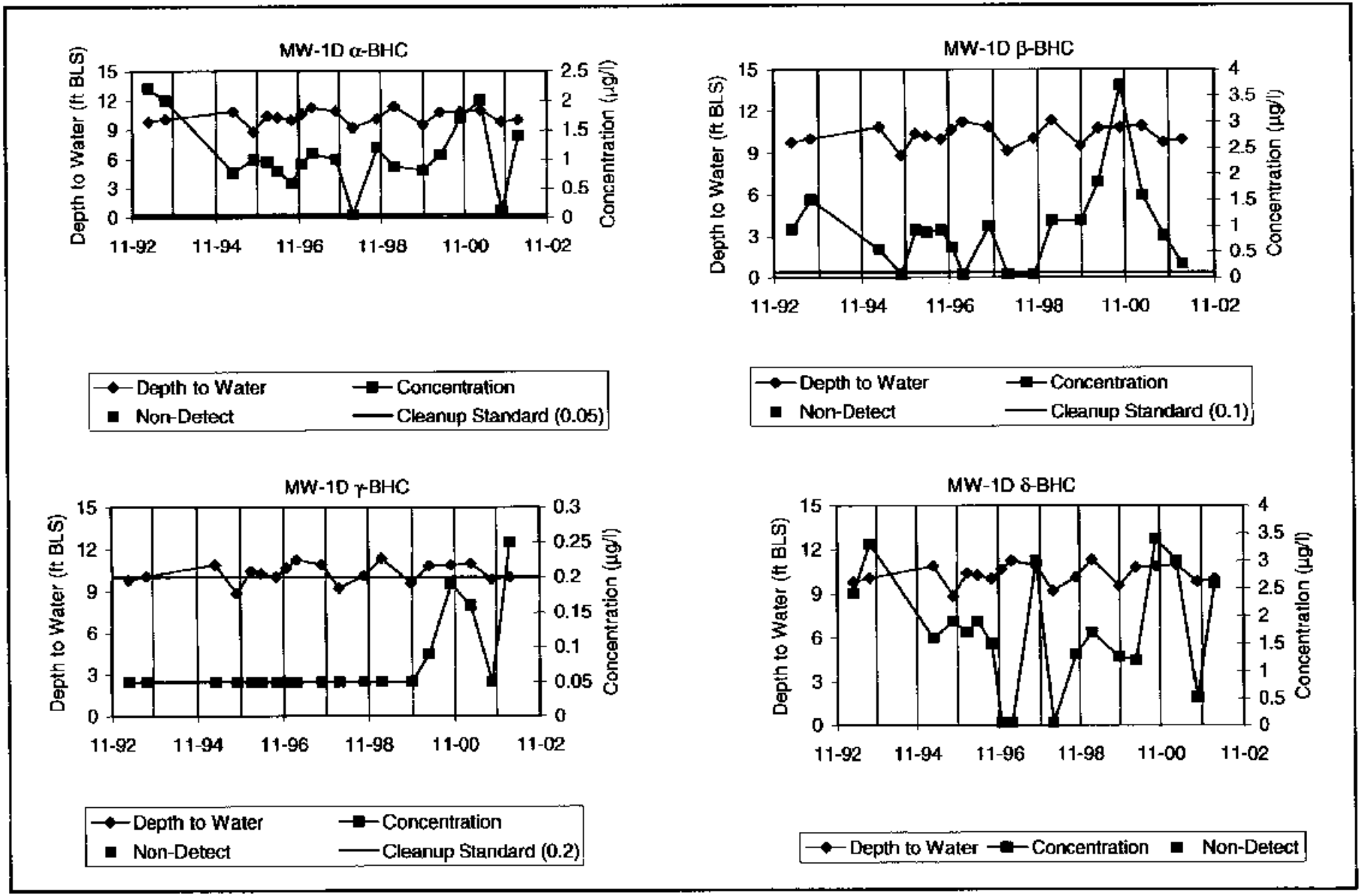




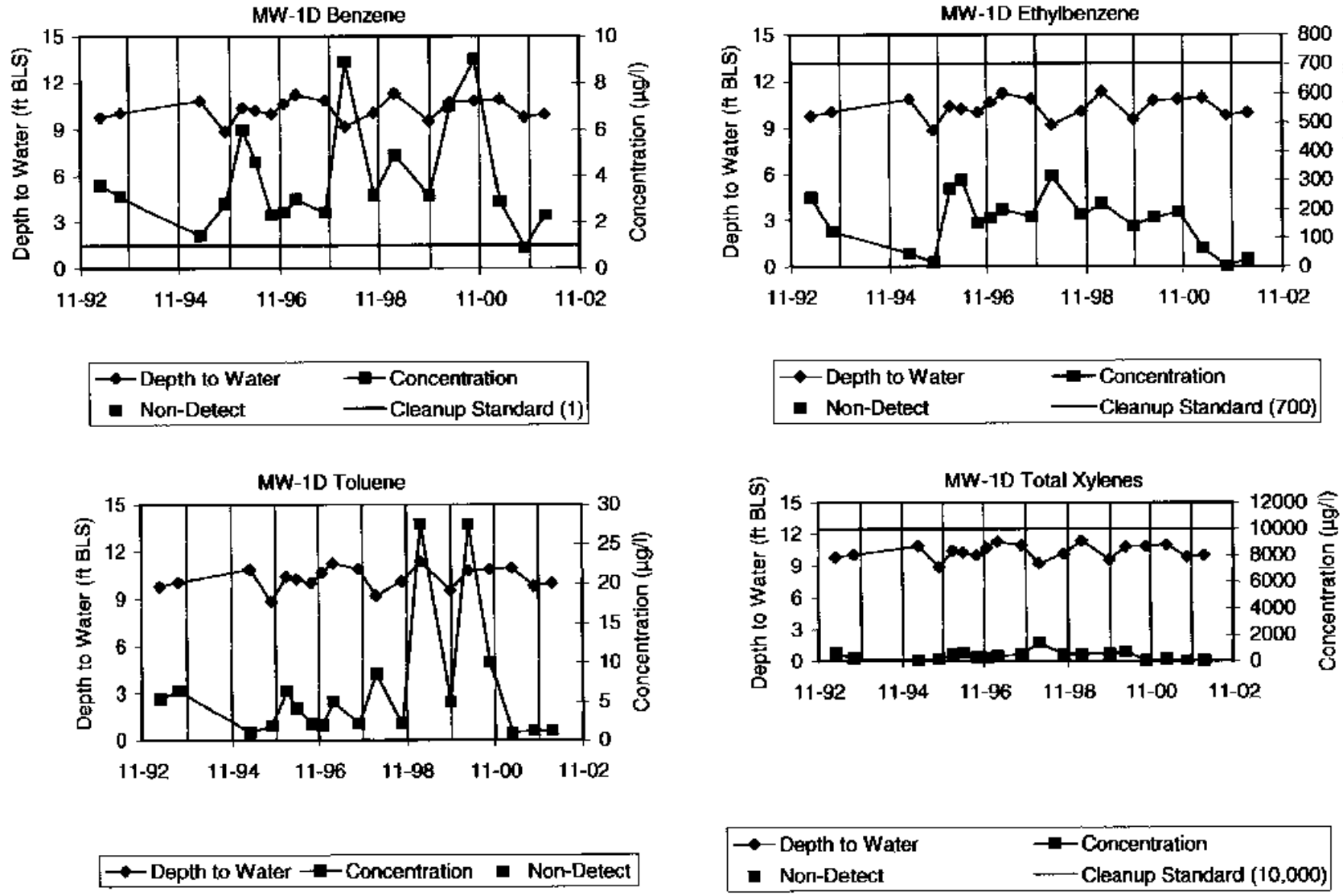
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



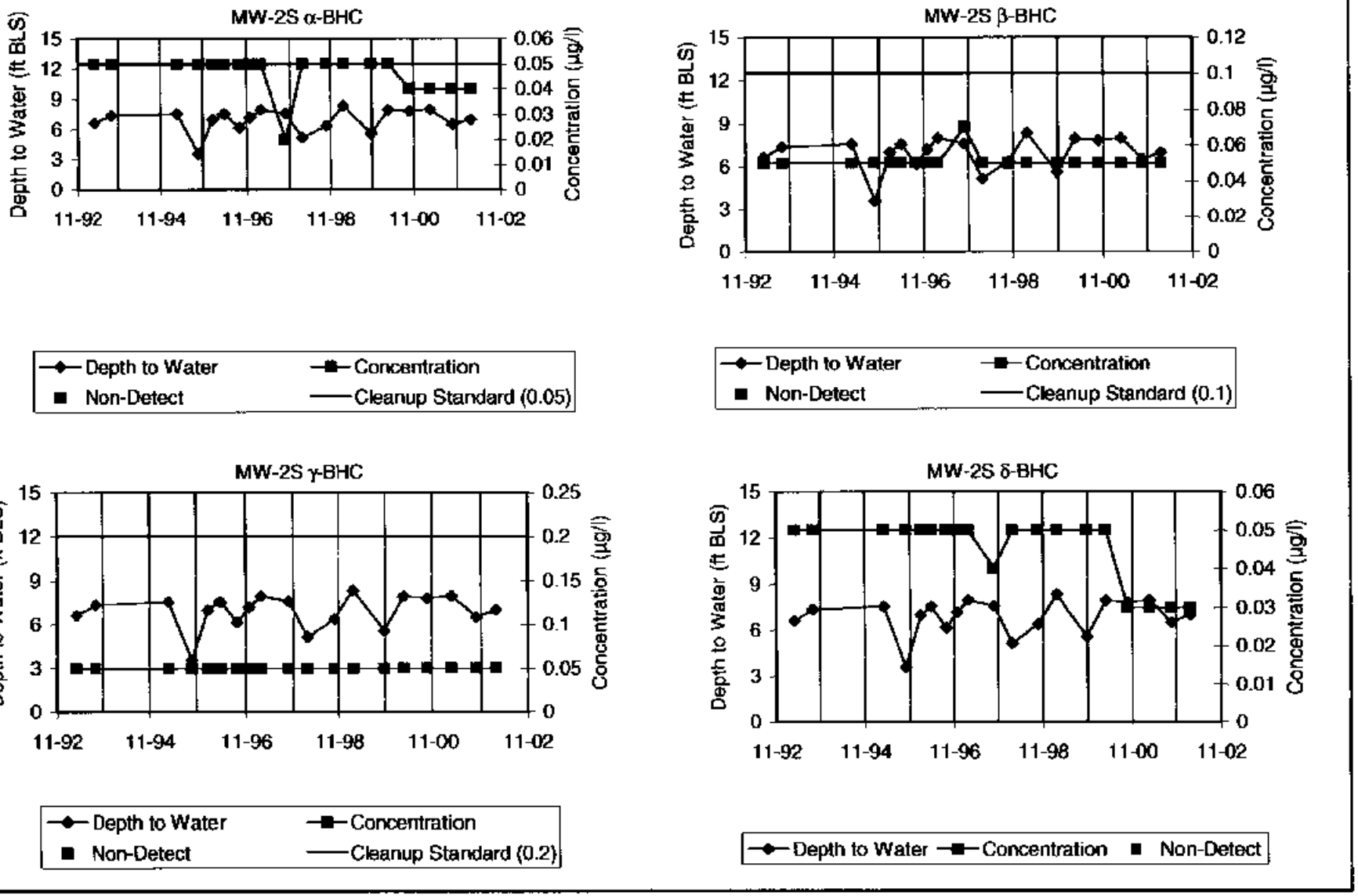
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



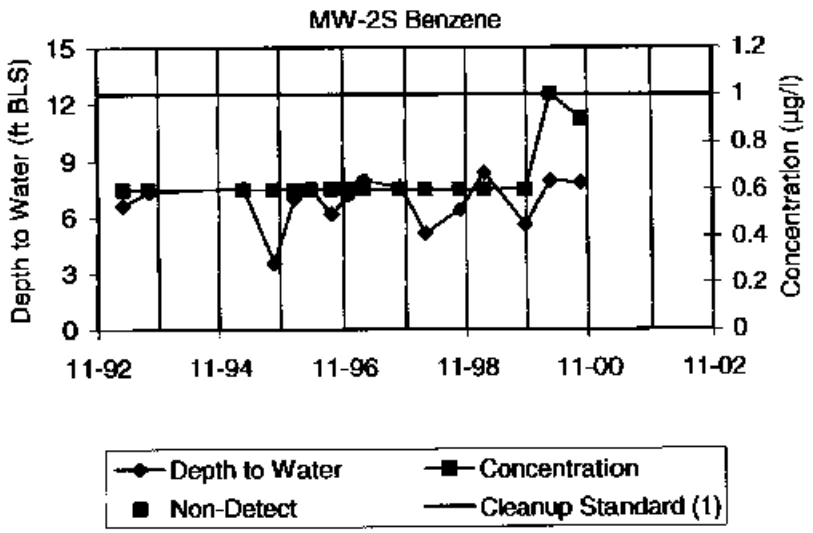
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

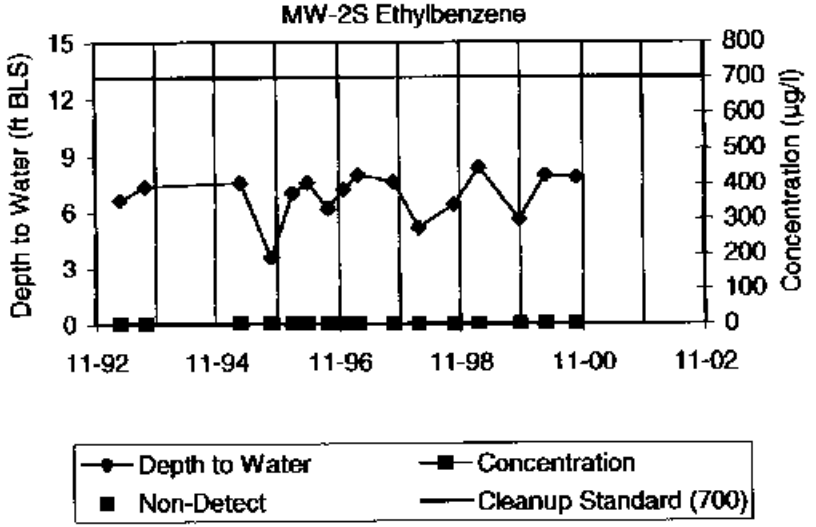


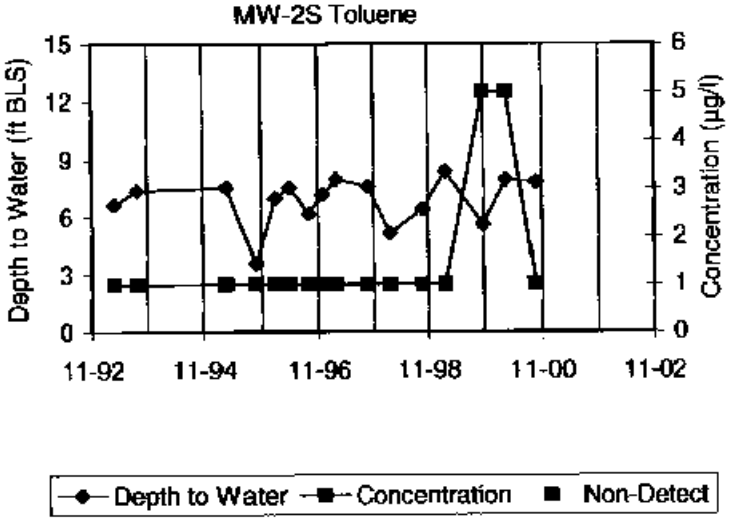
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

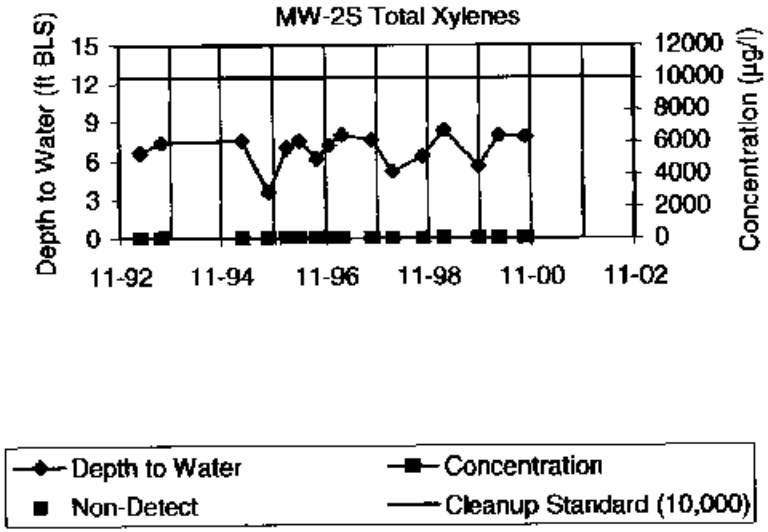


Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

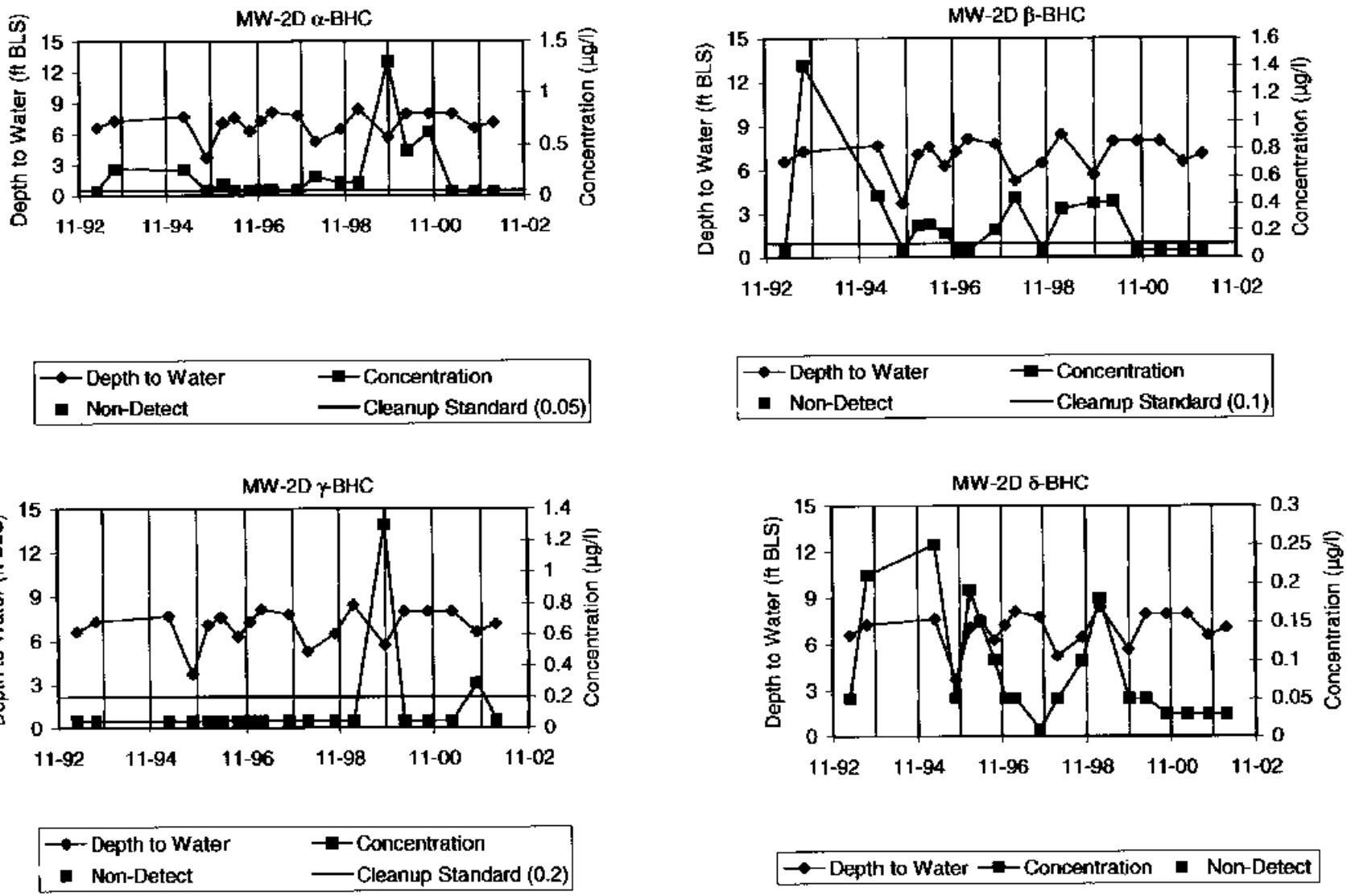




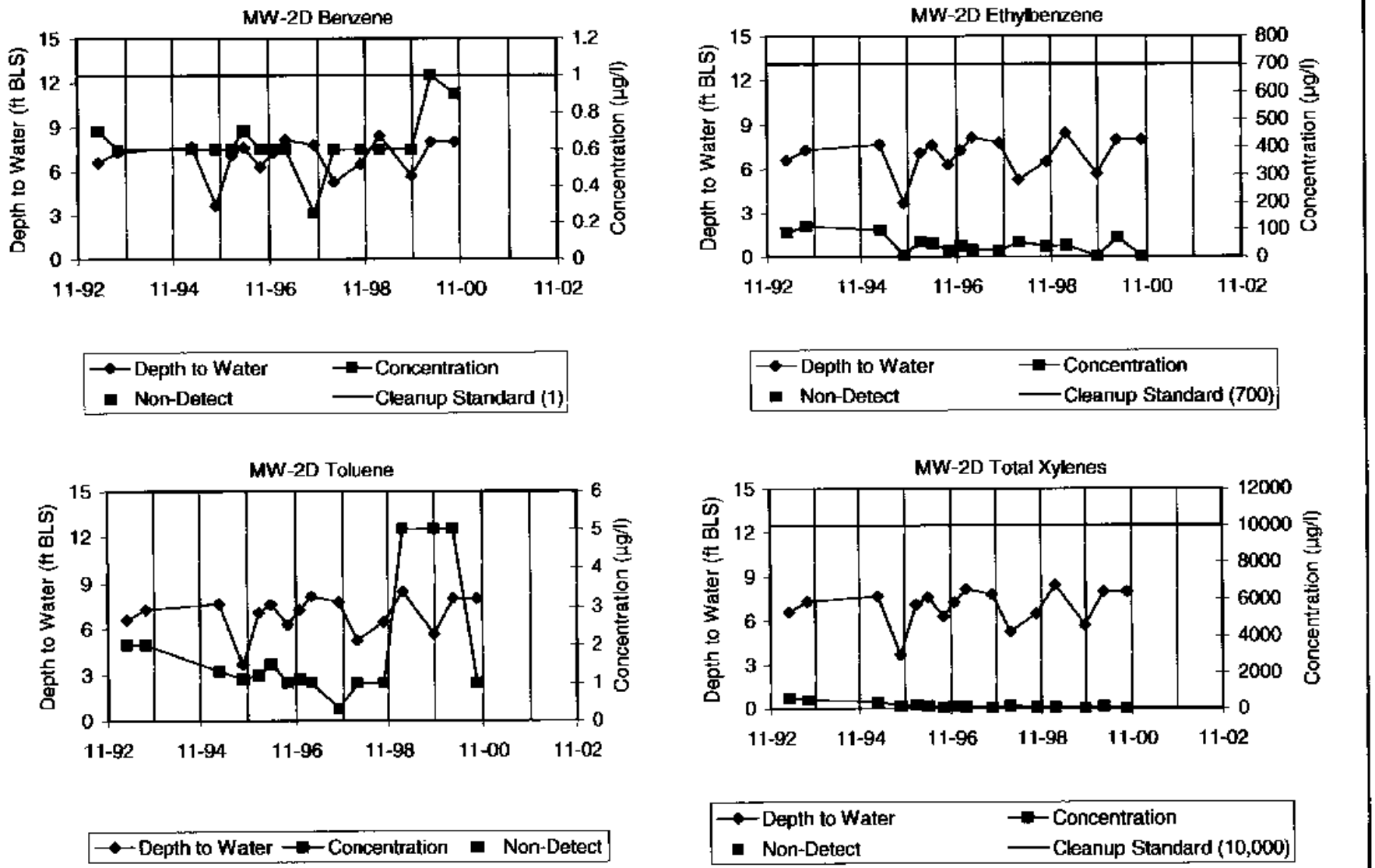




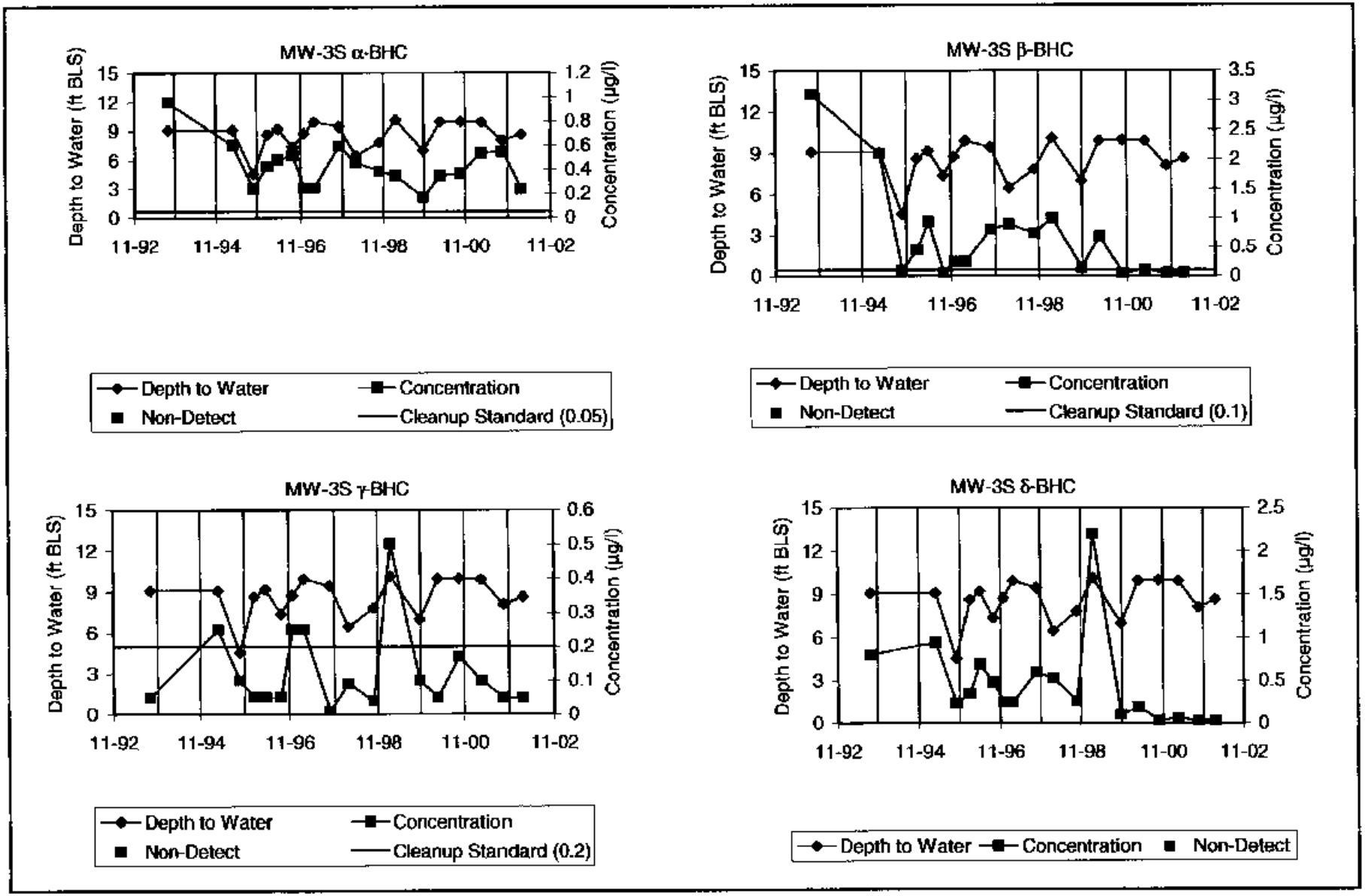
Generation Date: 03/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



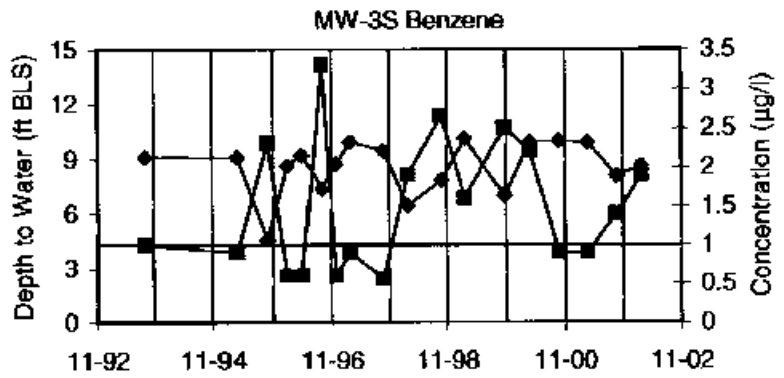
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

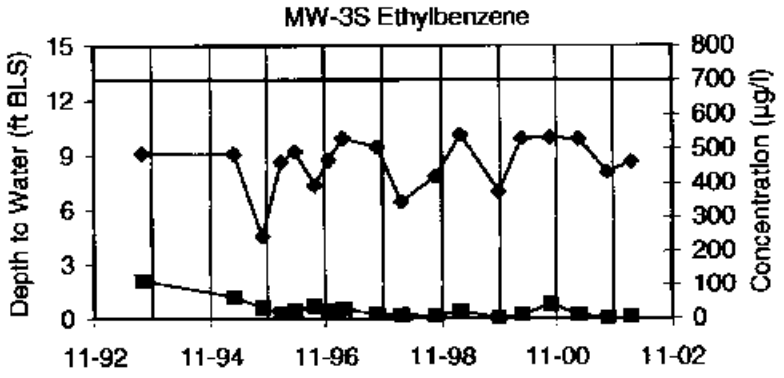


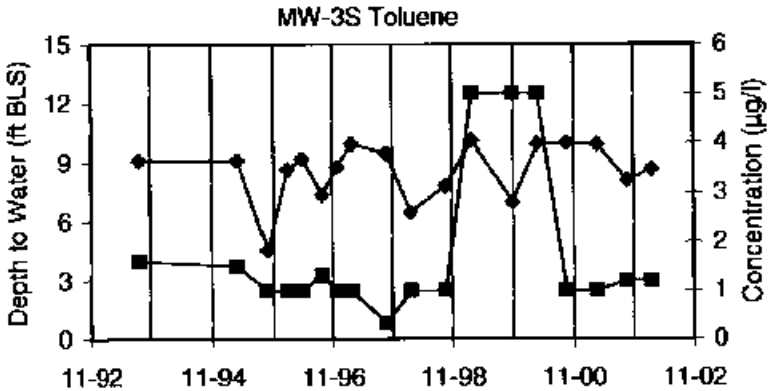
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

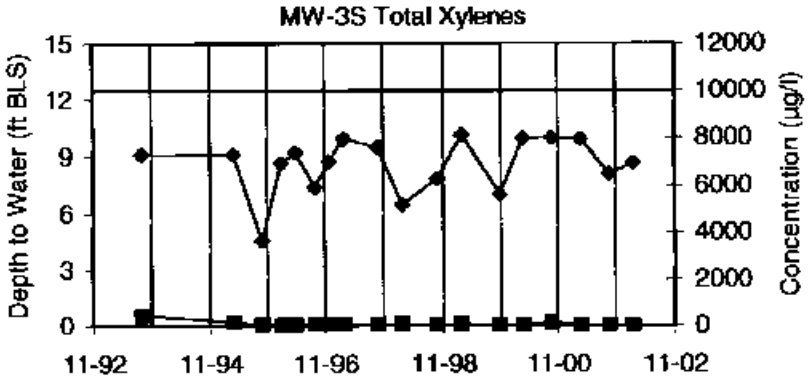


Generation Date: 03/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

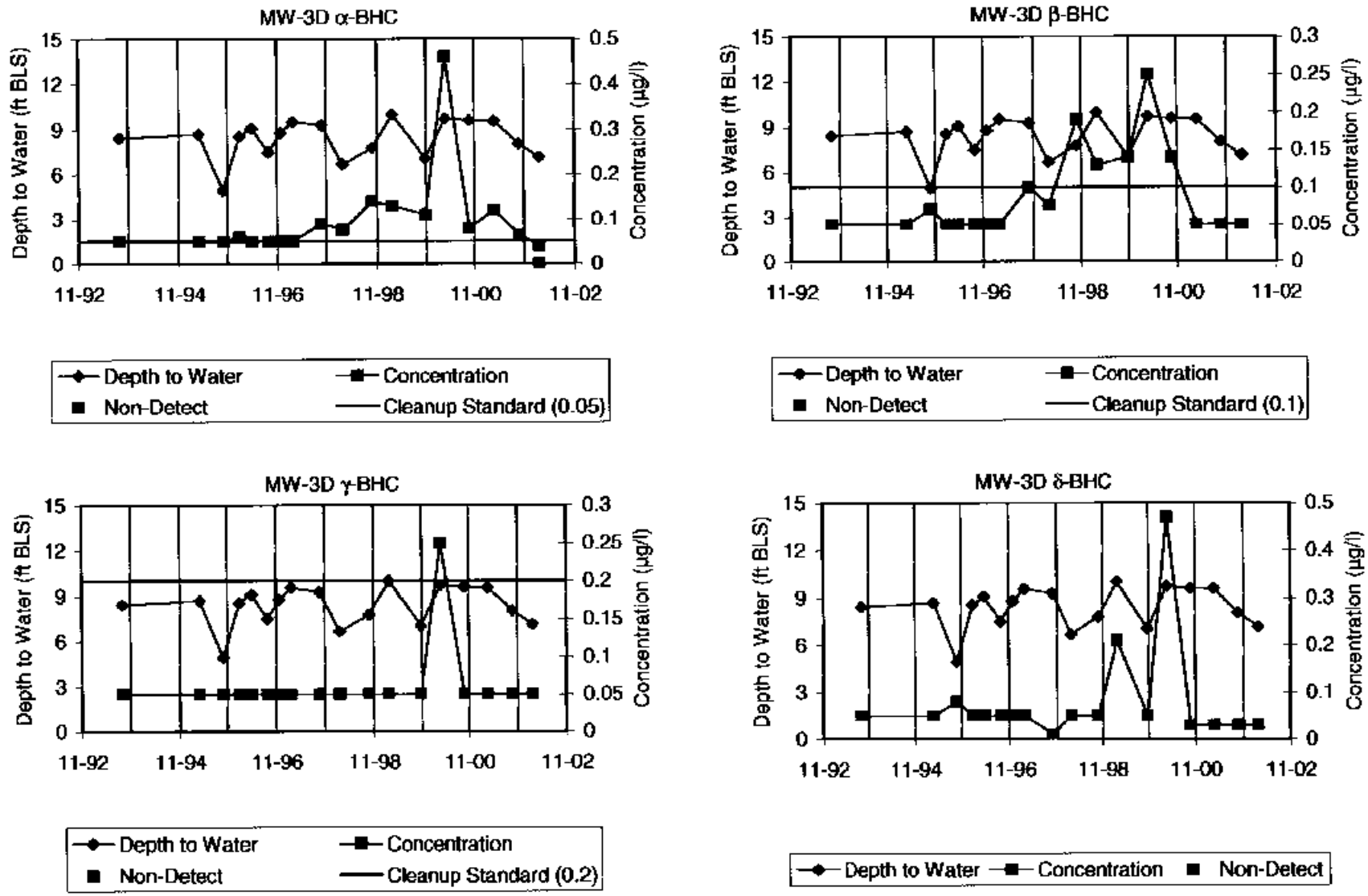




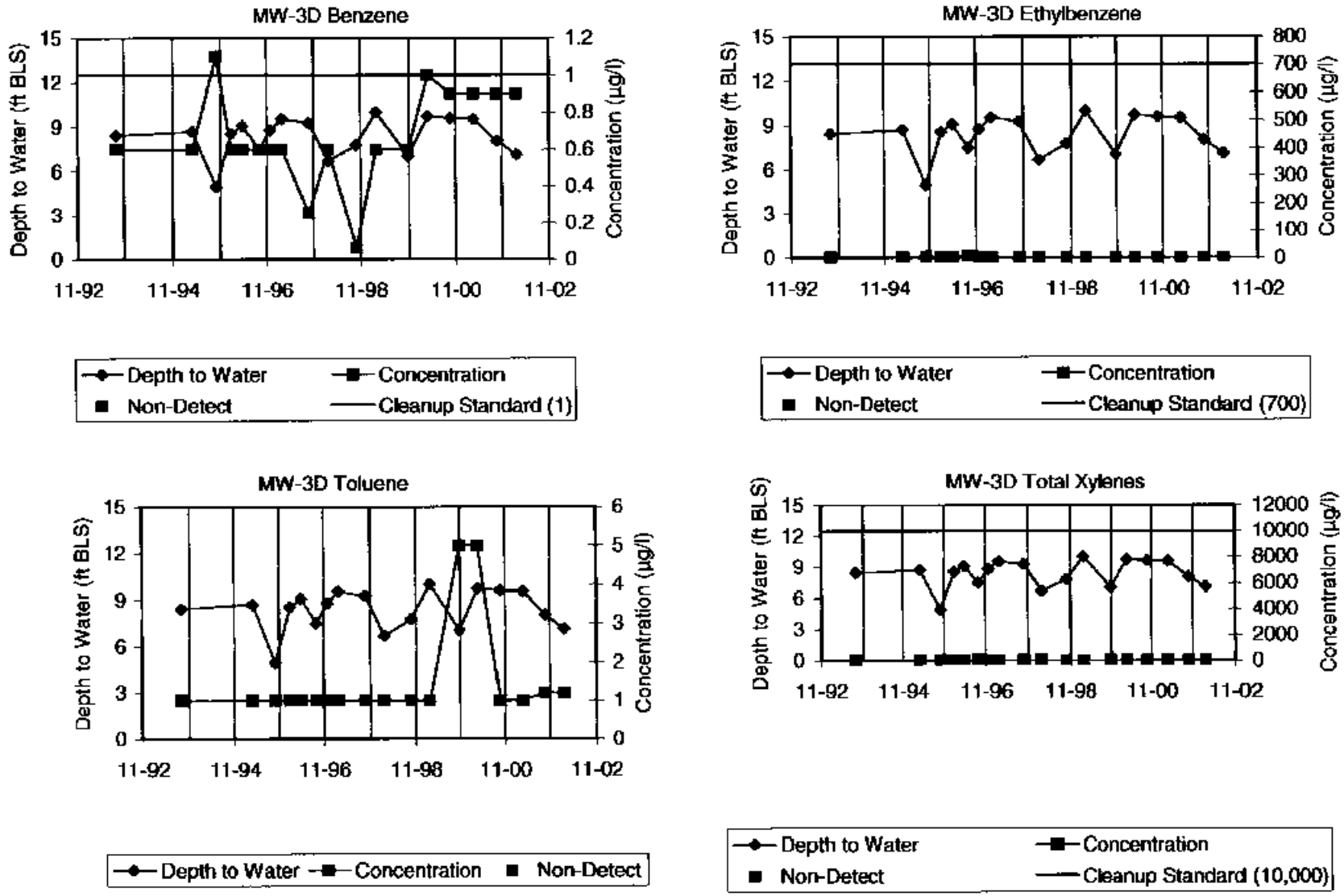




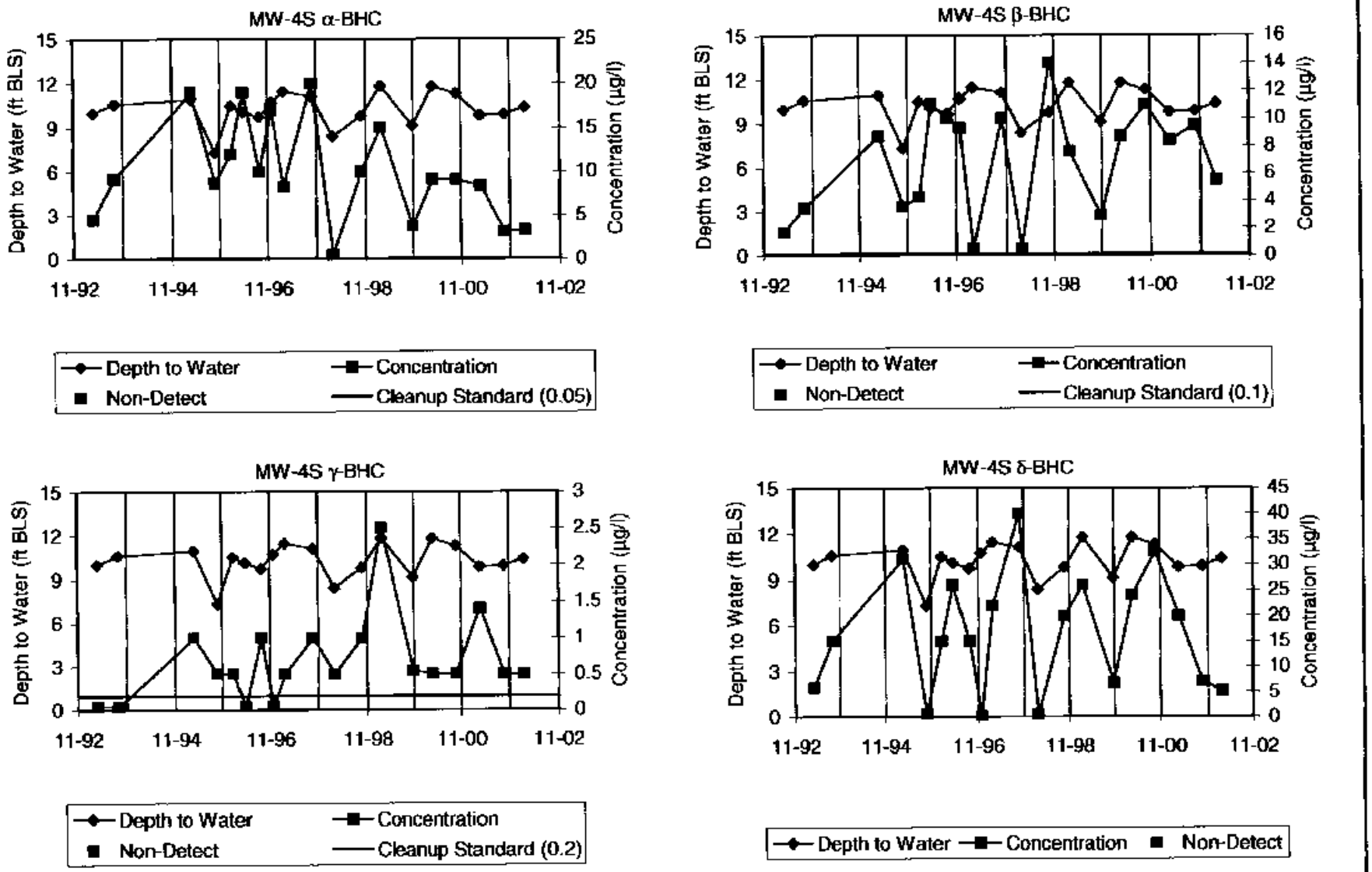
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



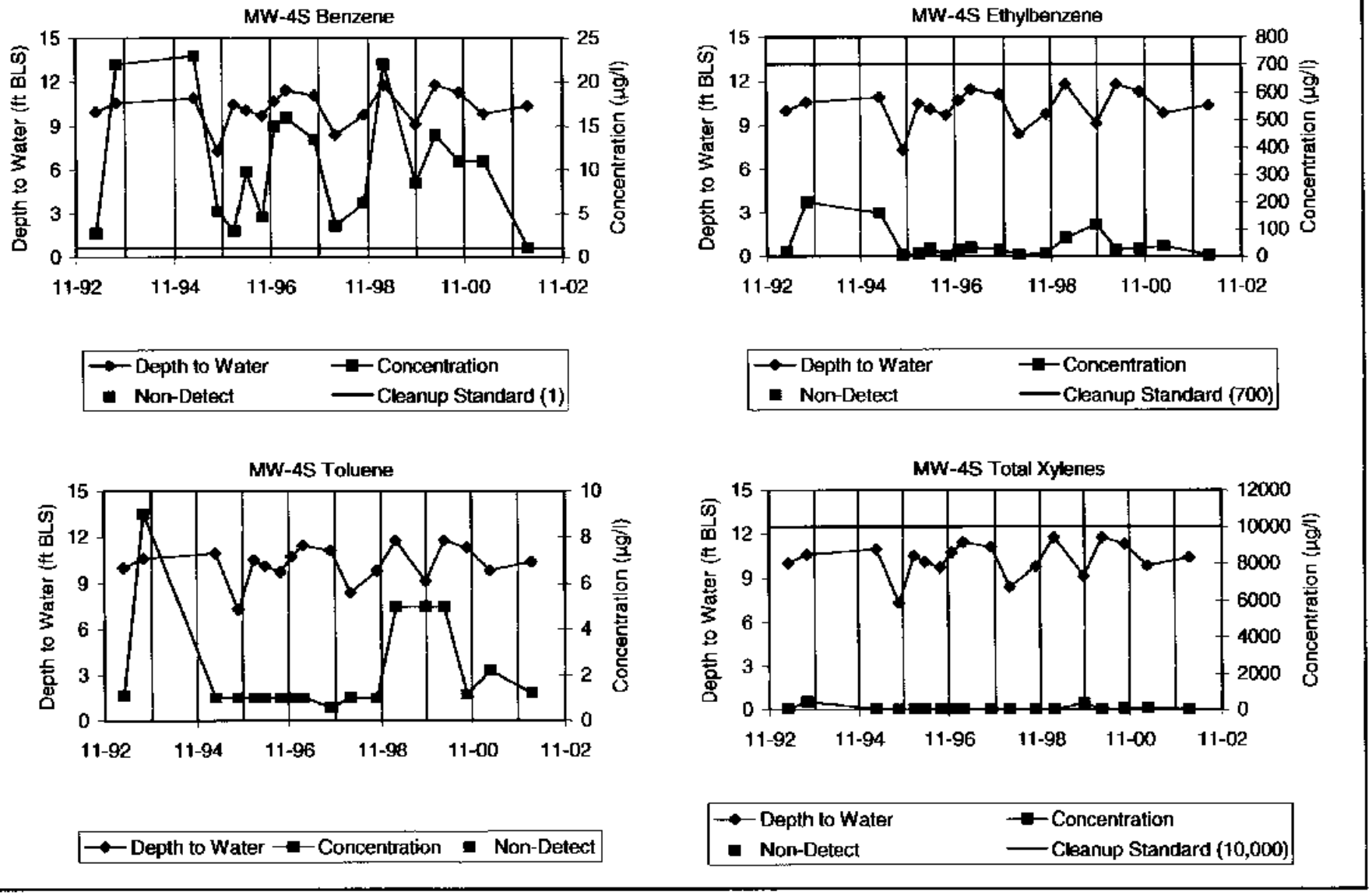
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



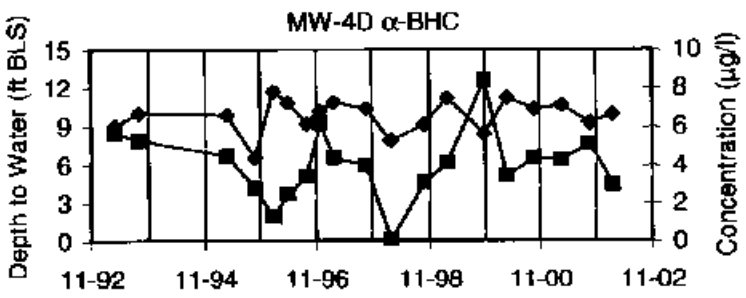
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

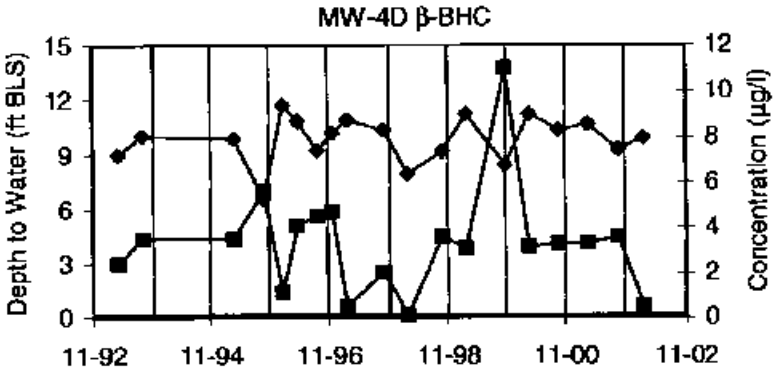


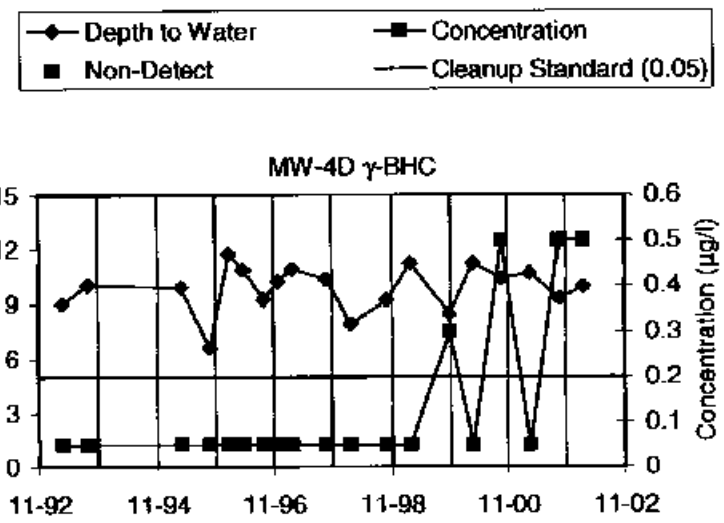
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

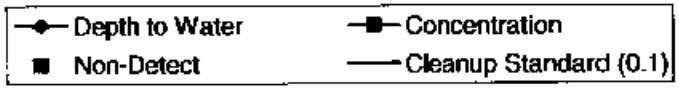


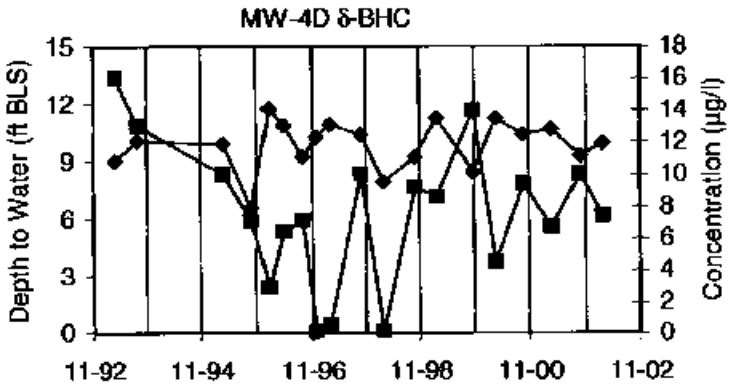
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

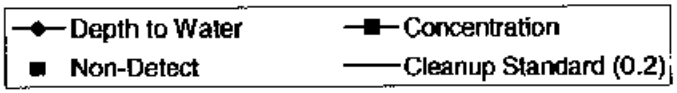


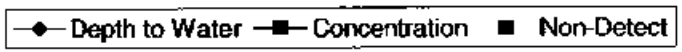




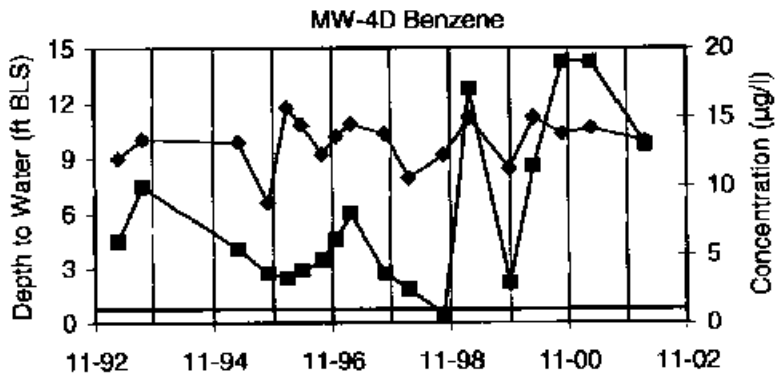


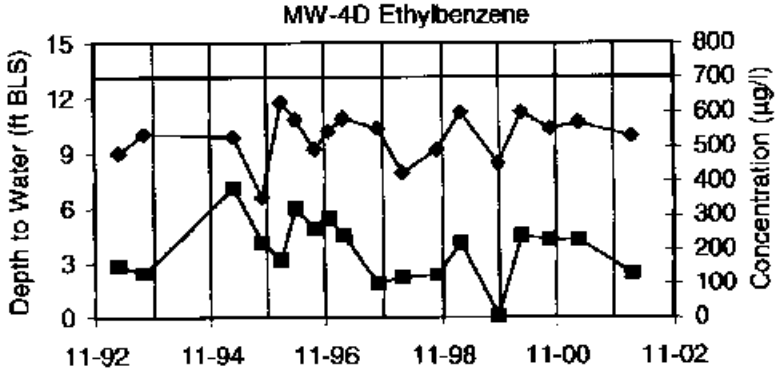


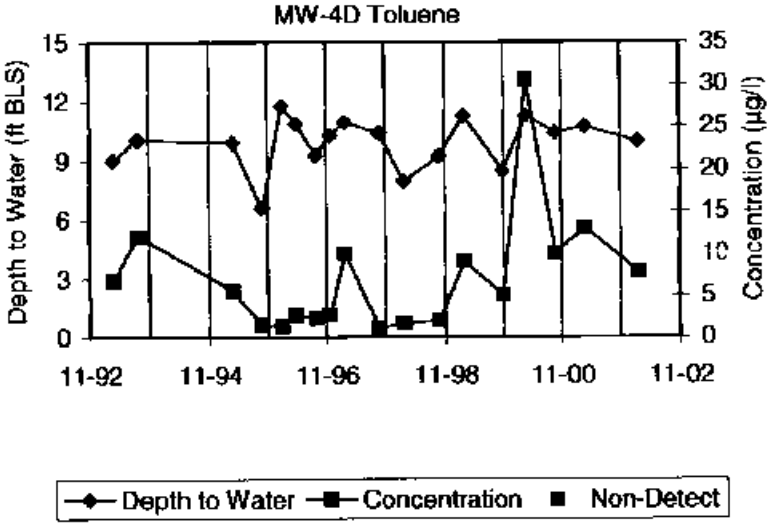


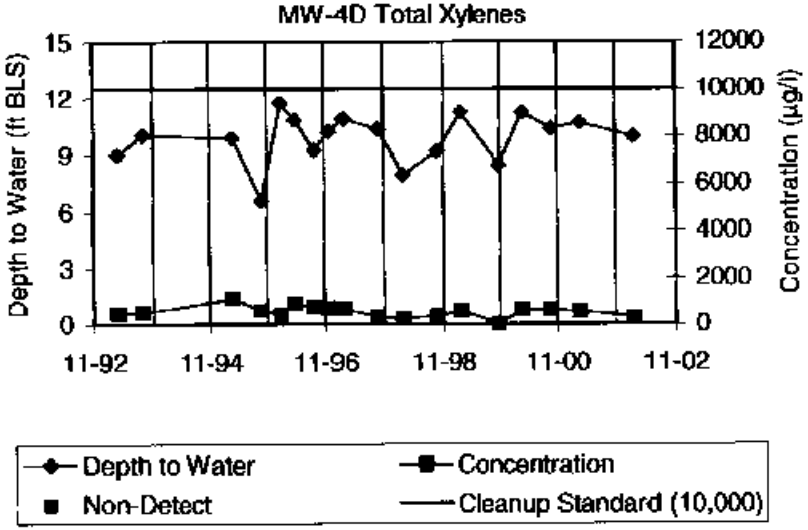


Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

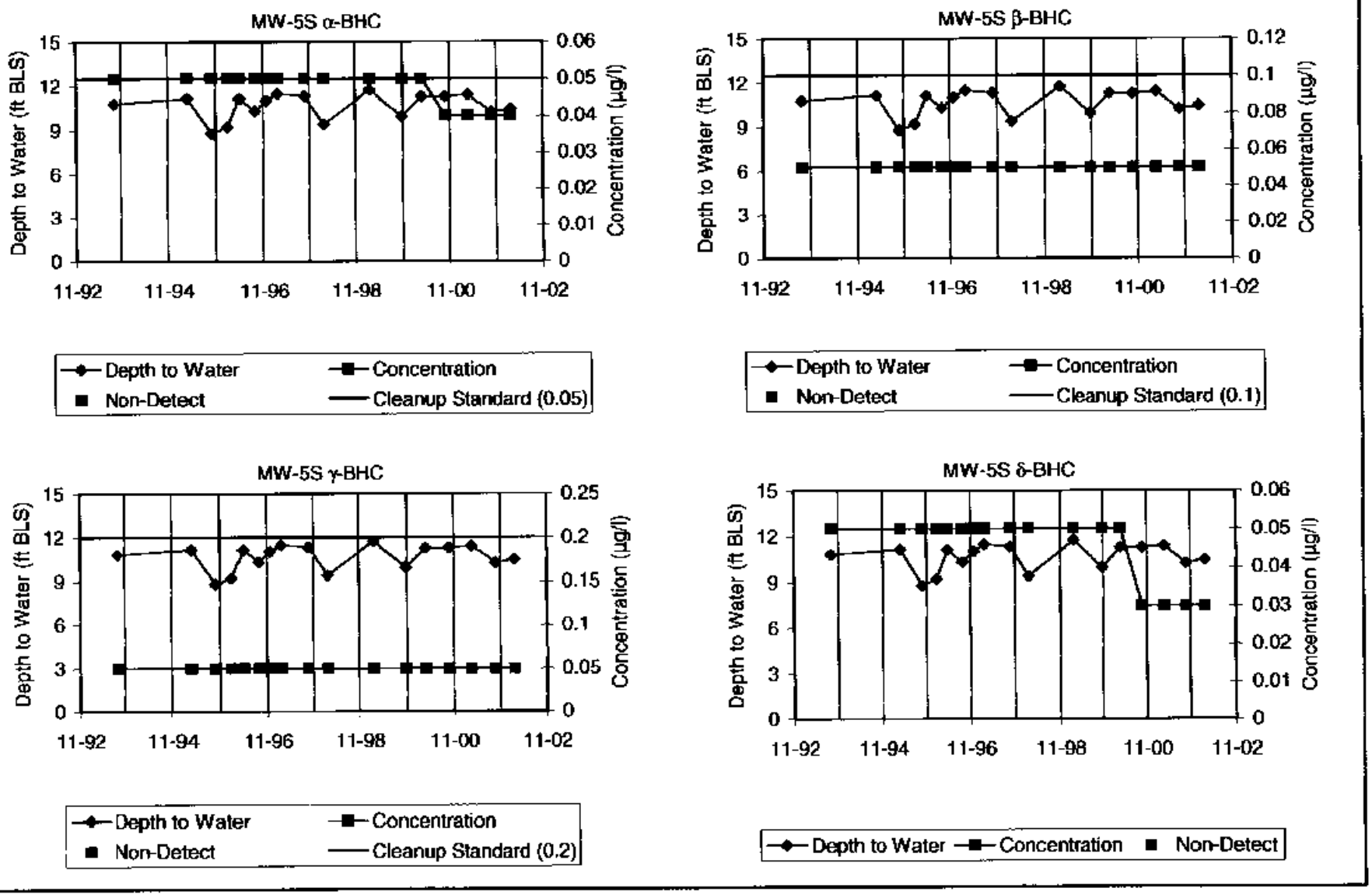




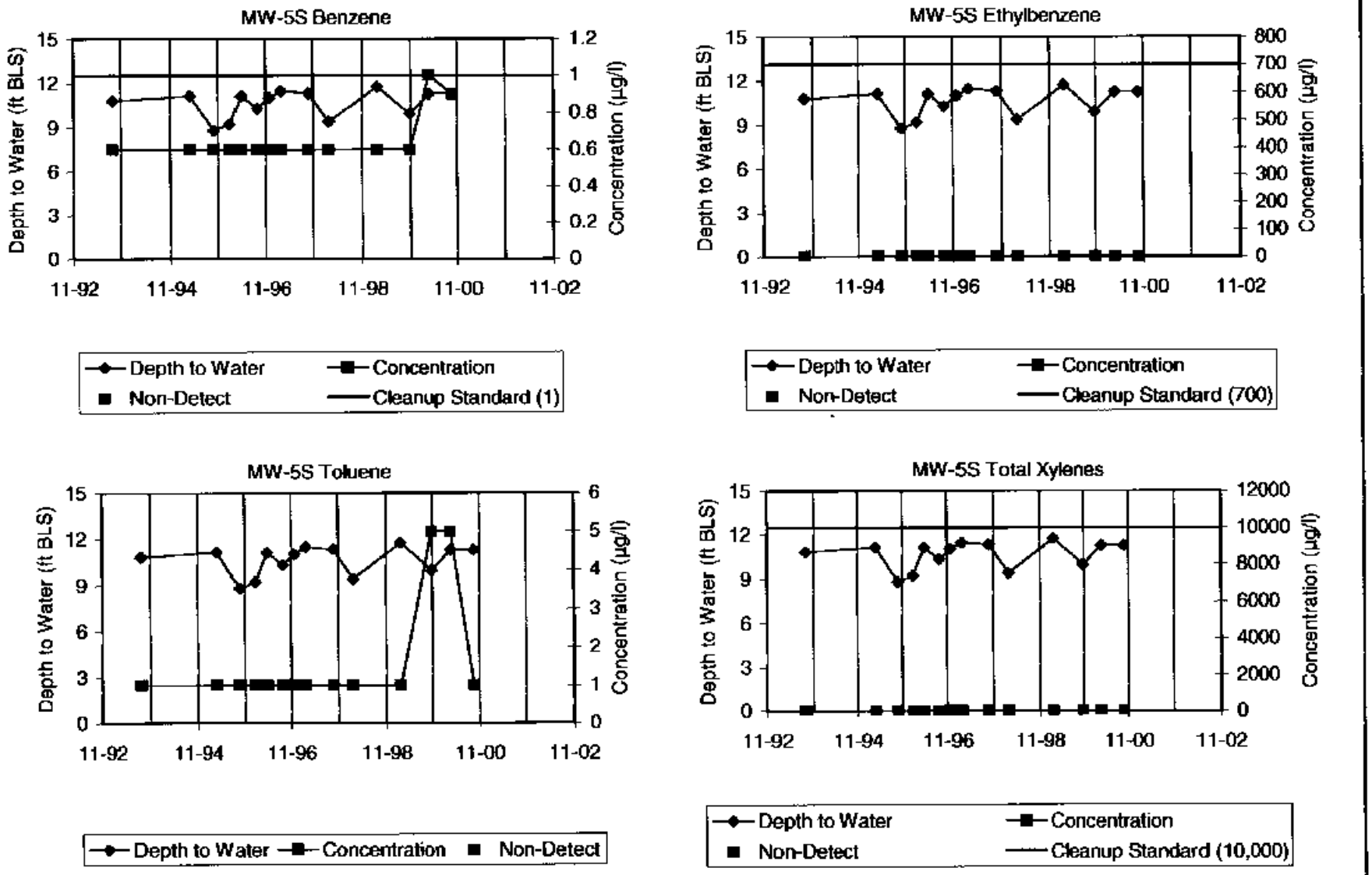




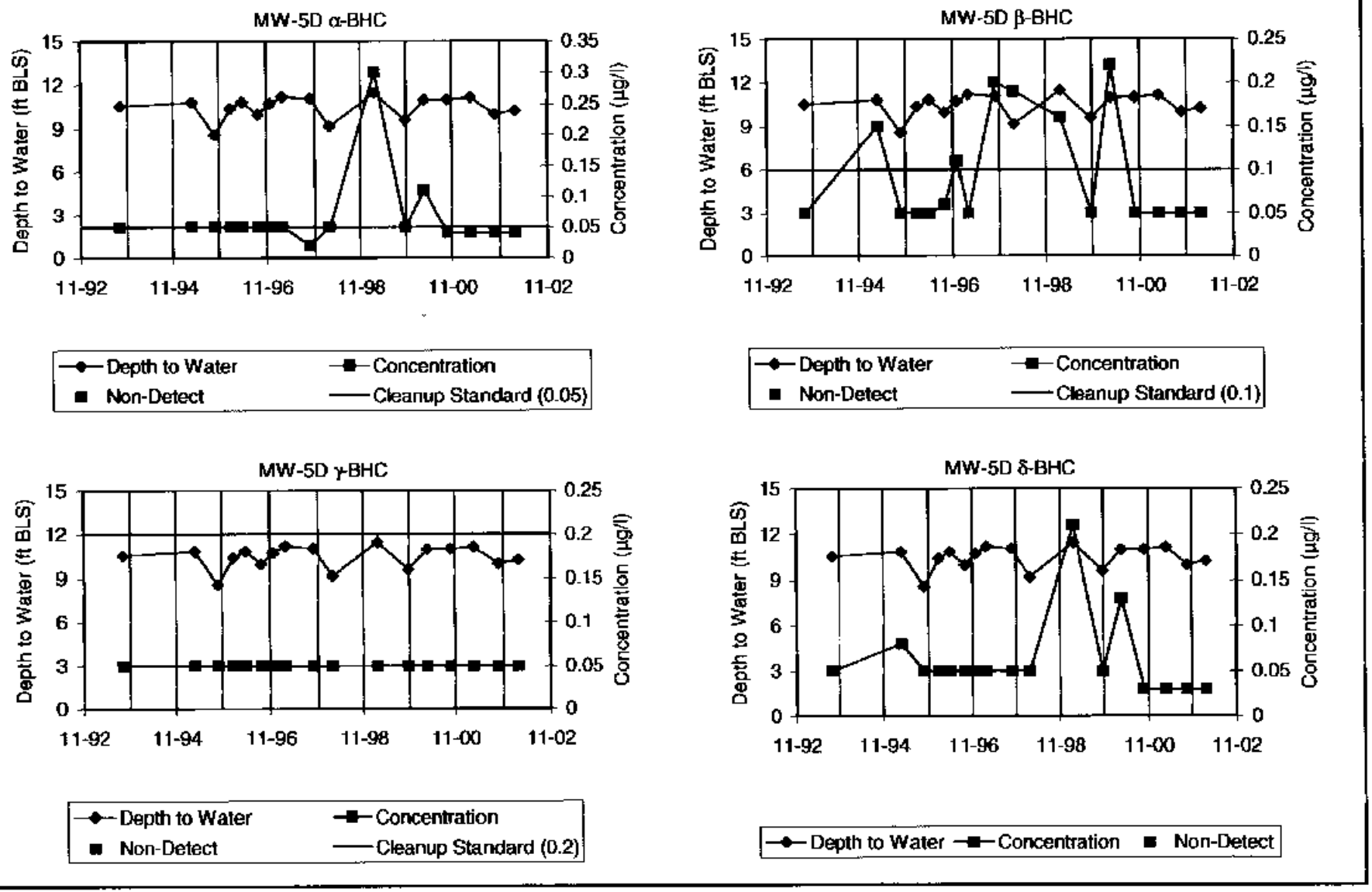
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



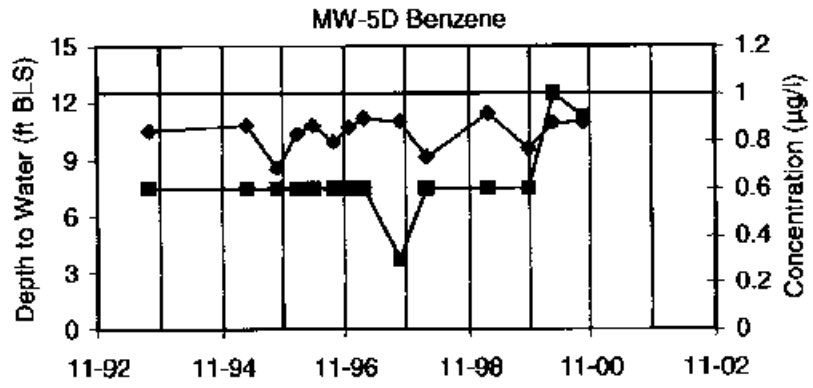
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

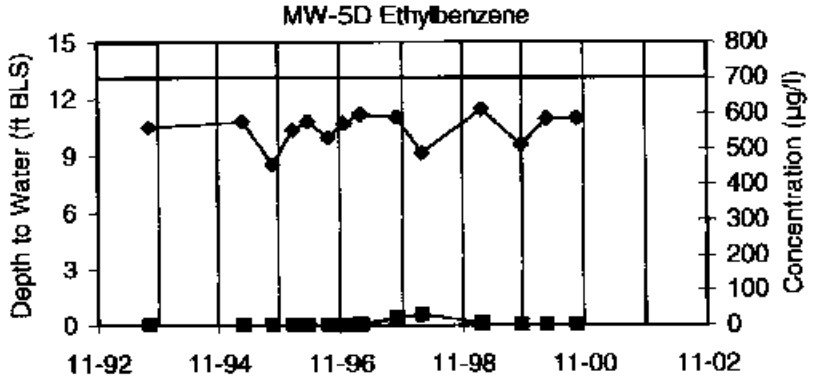


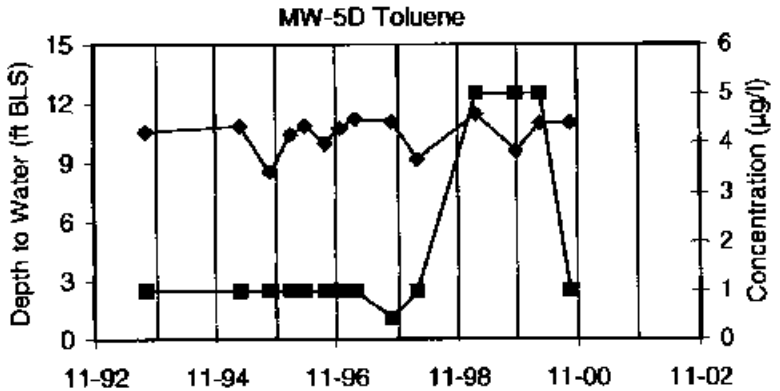
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

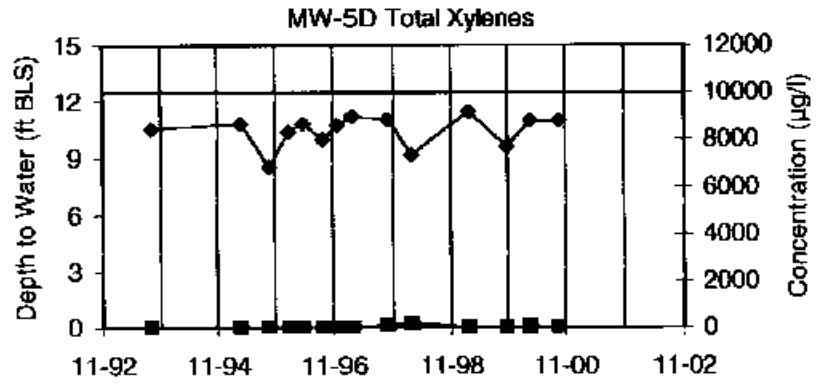


Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

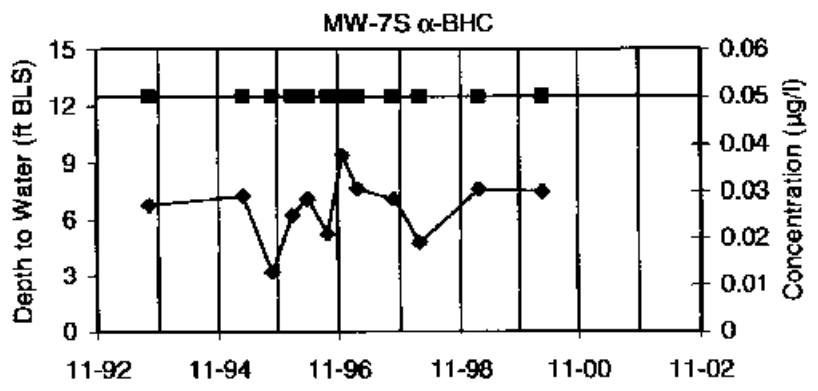


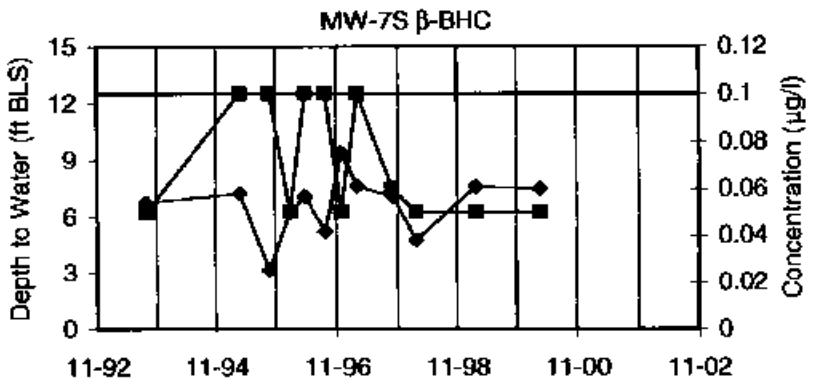


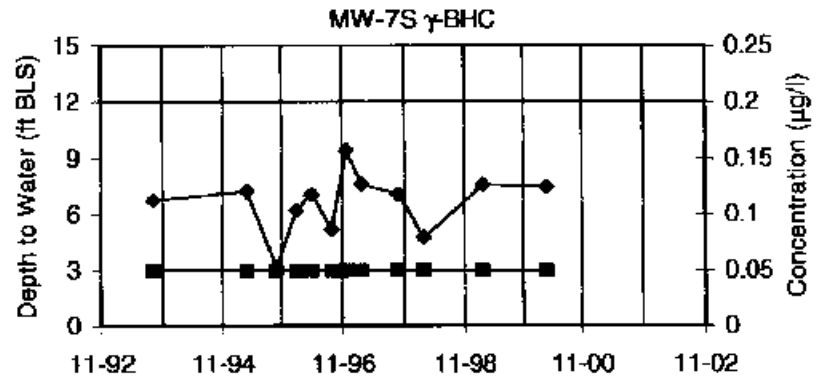


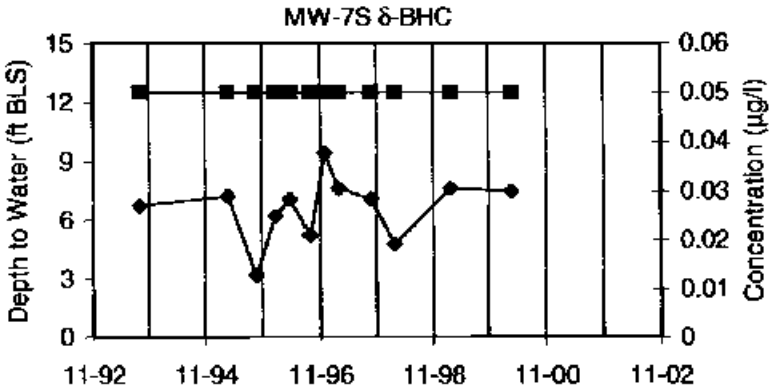


Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

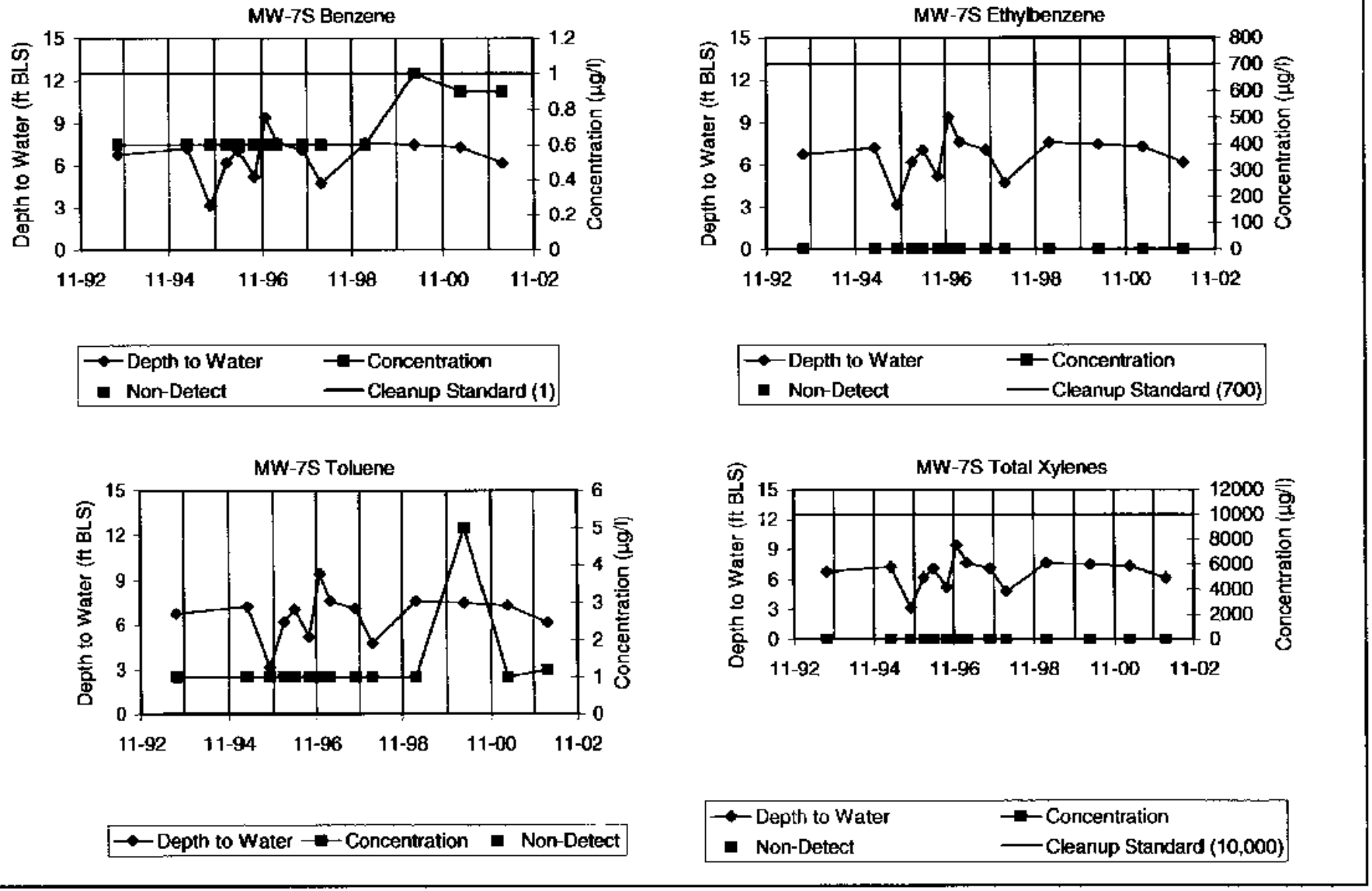




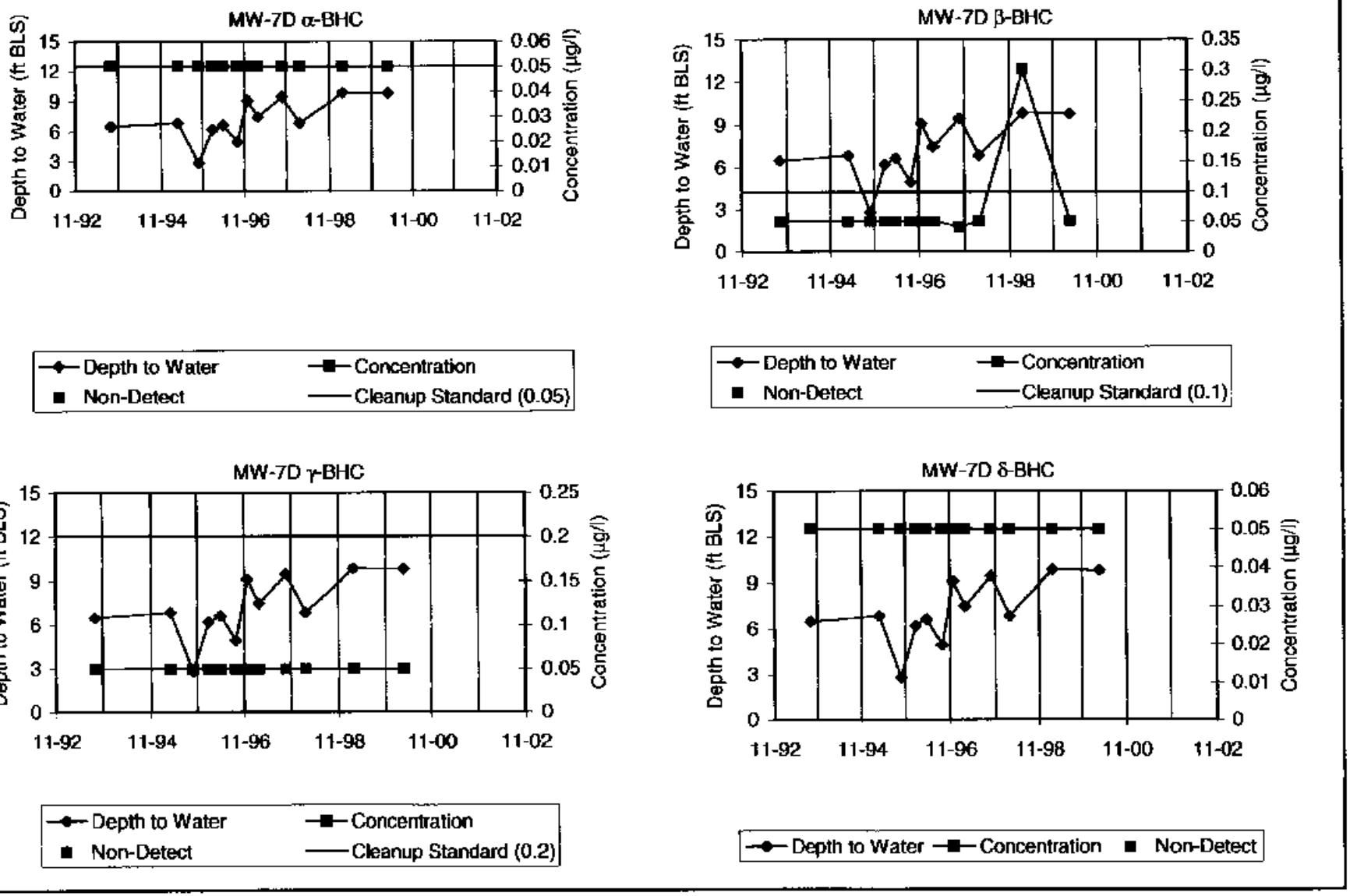




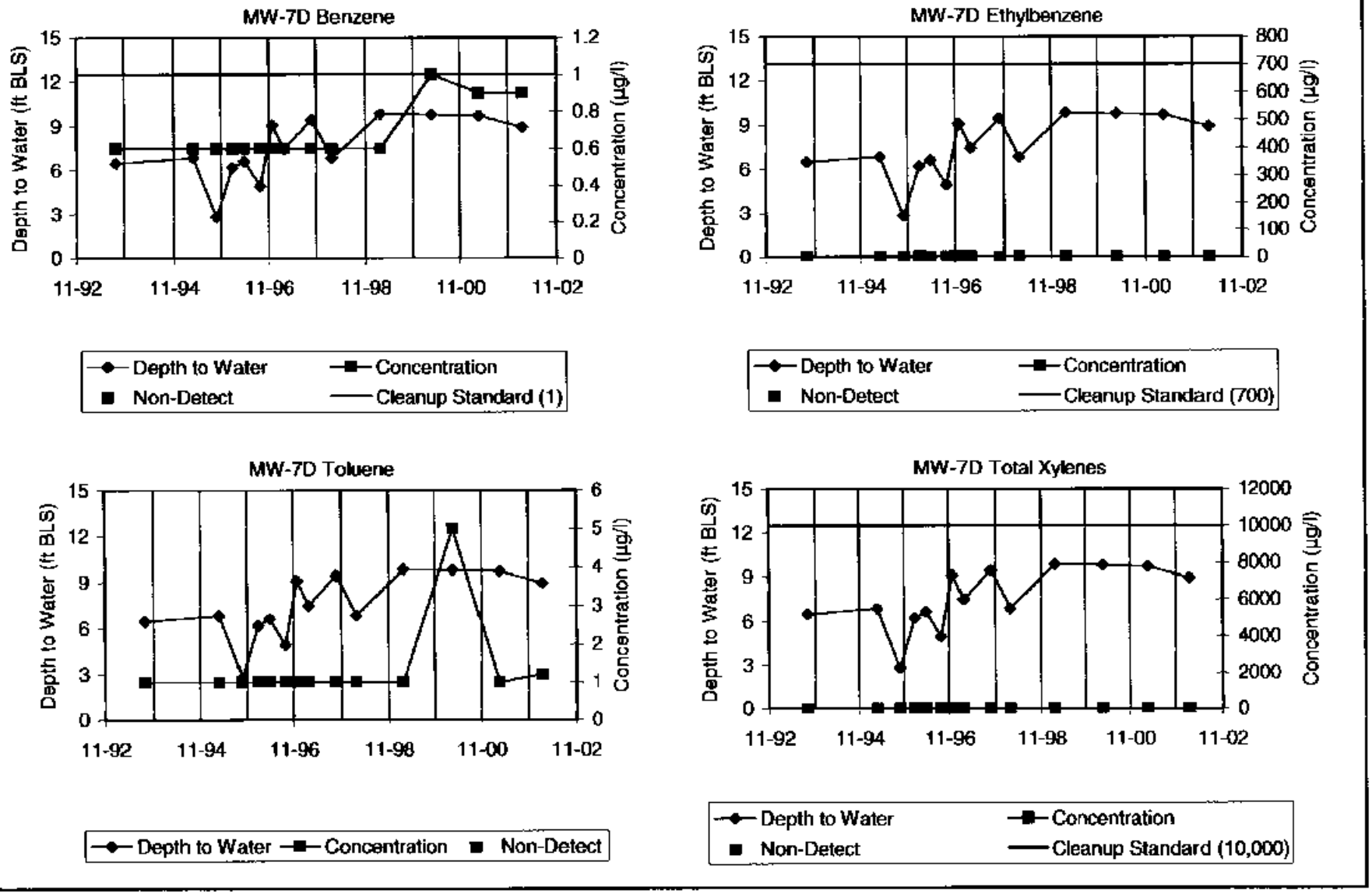
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



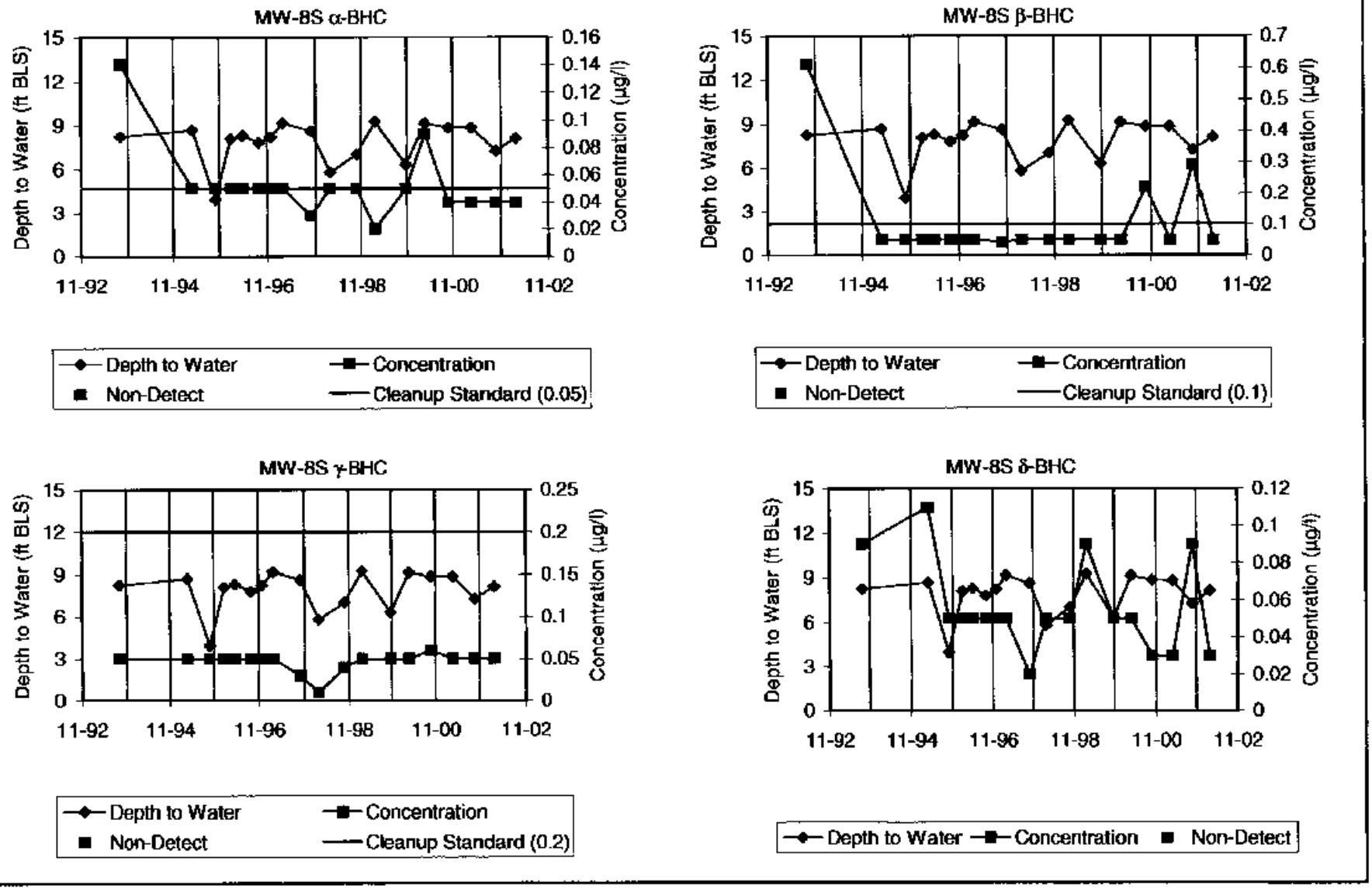
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



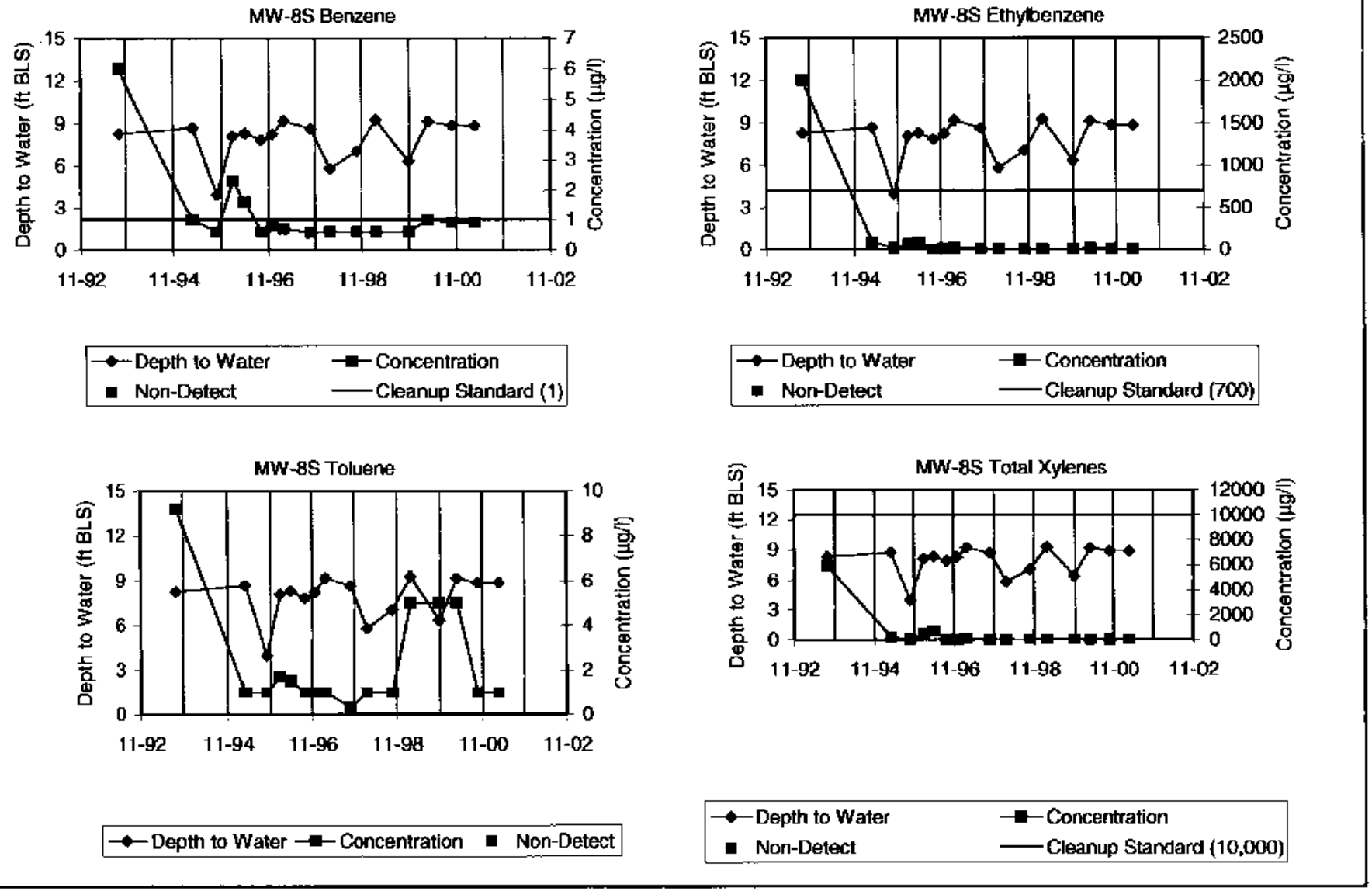
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



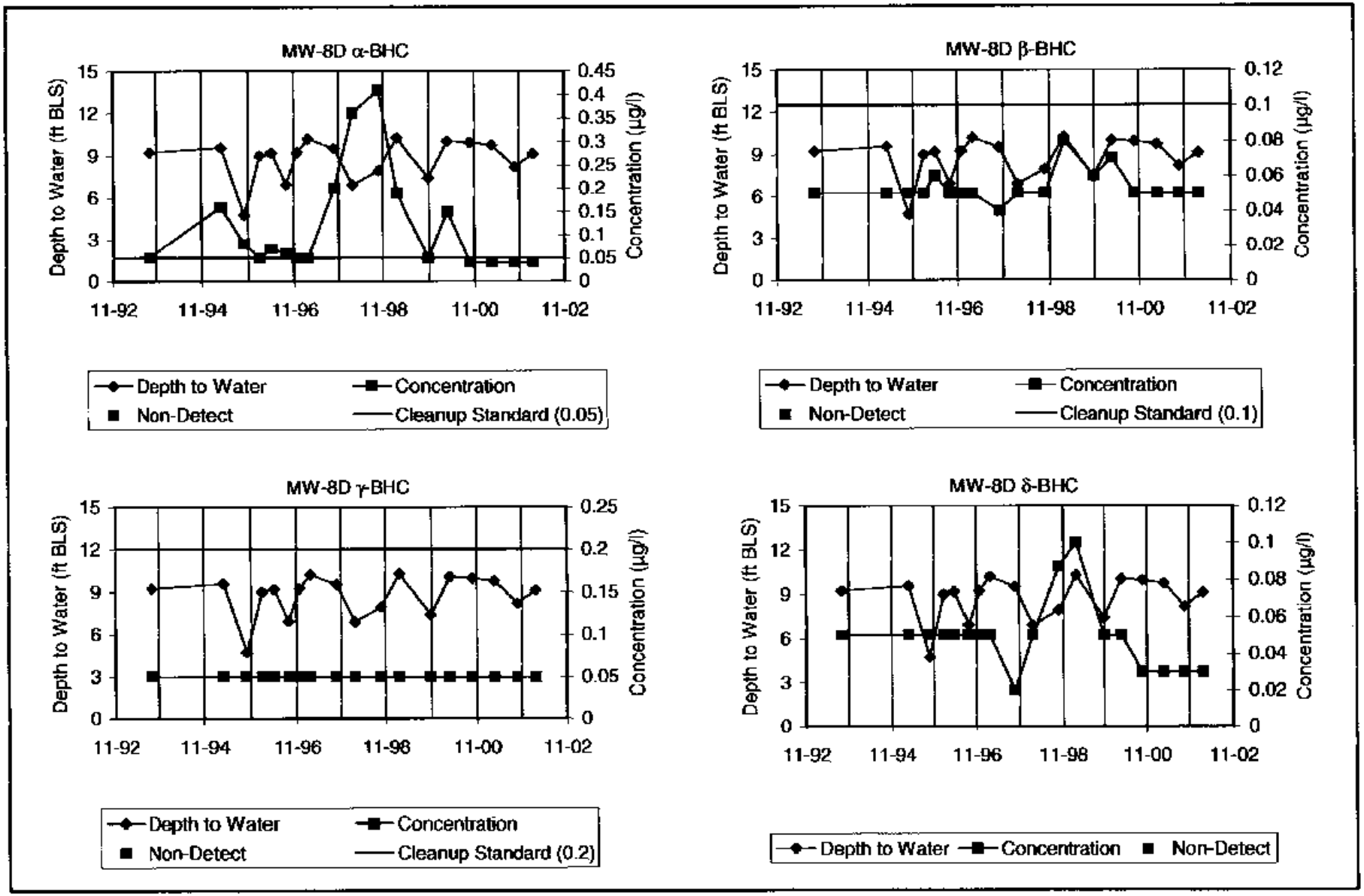
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



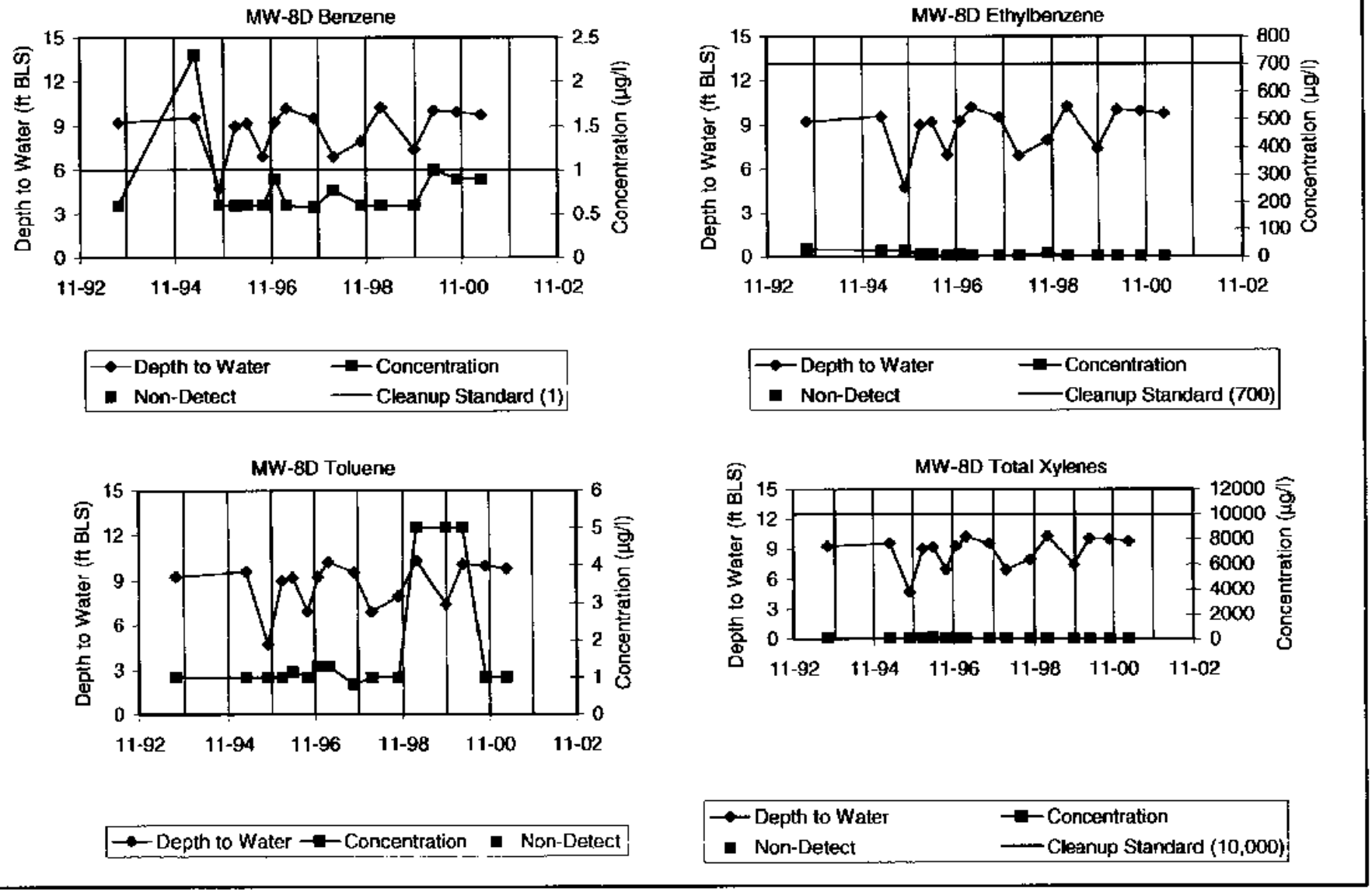
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



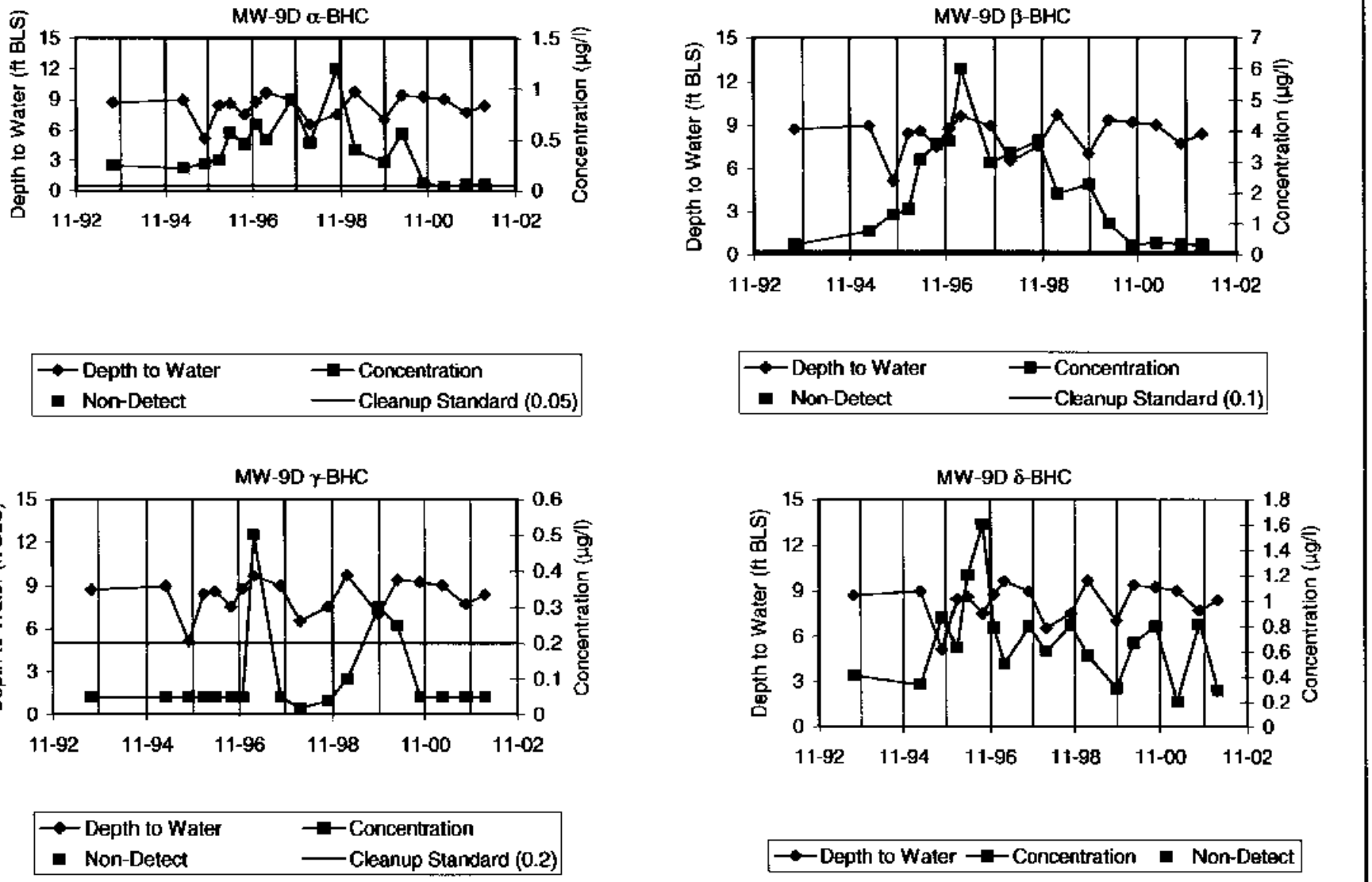
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



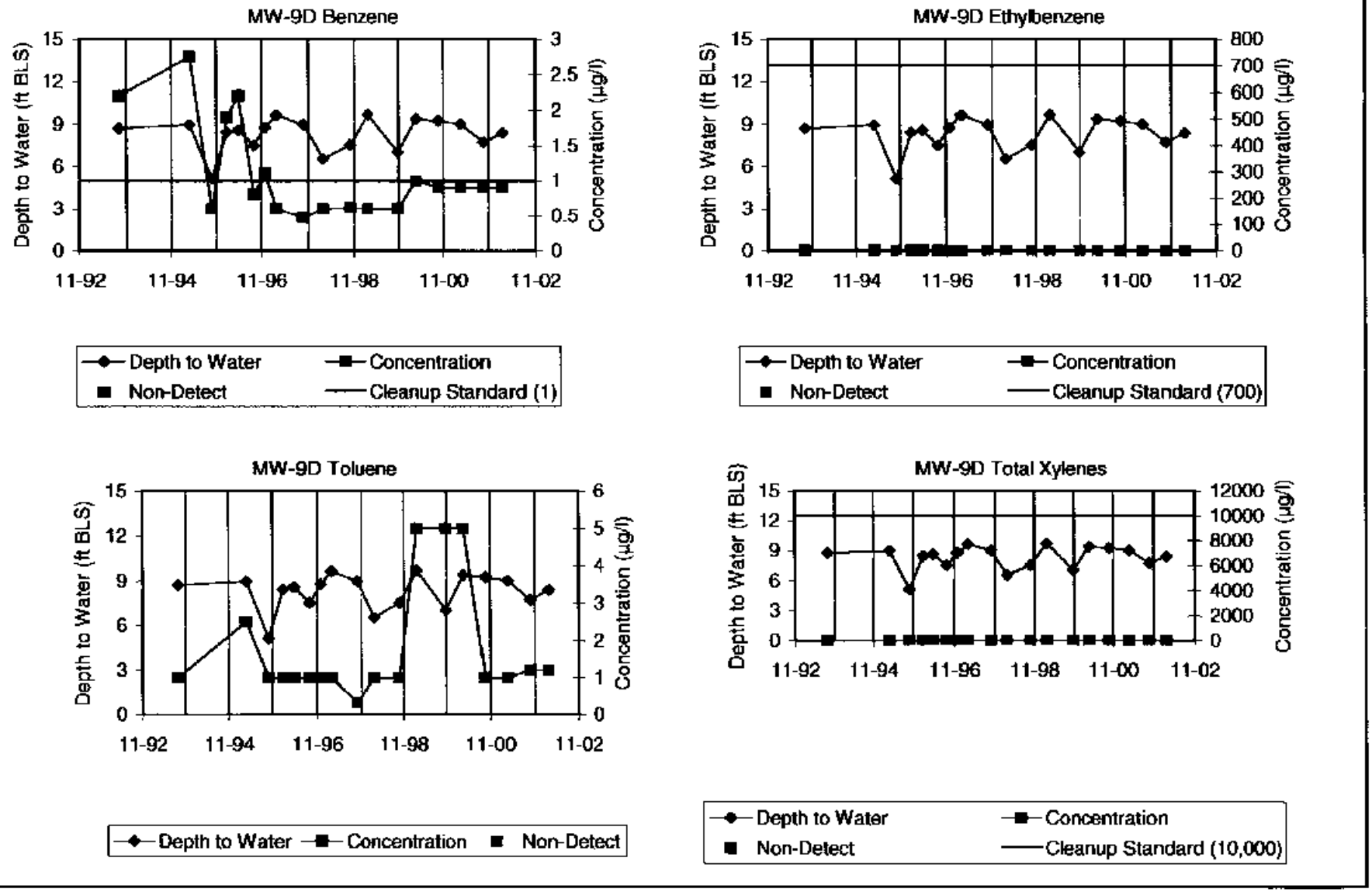
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



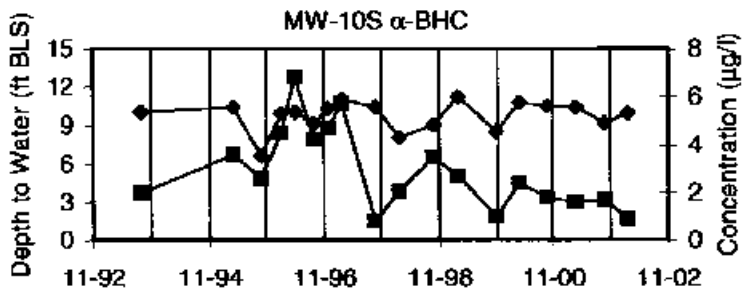
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

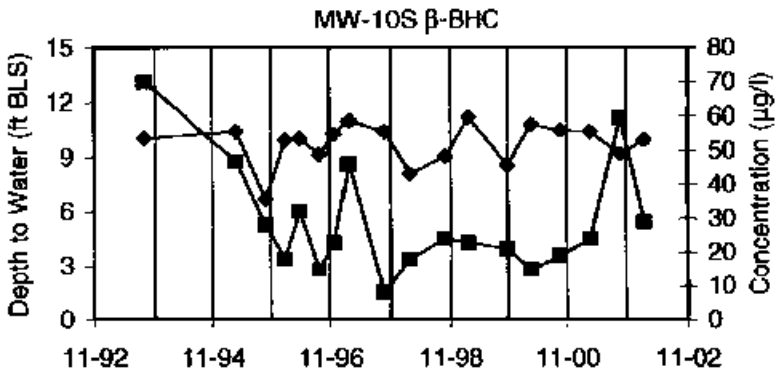


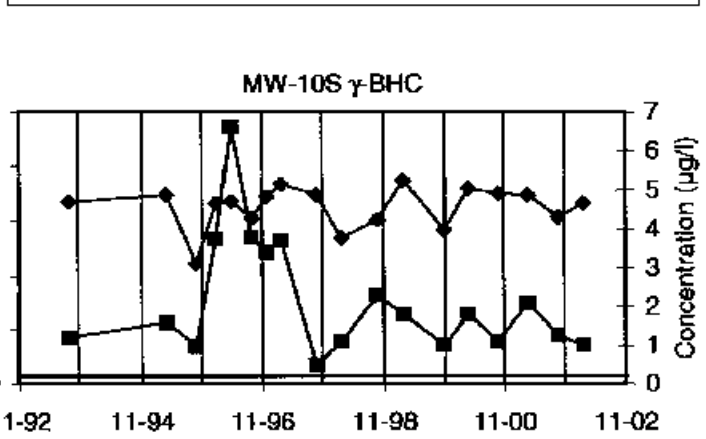
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

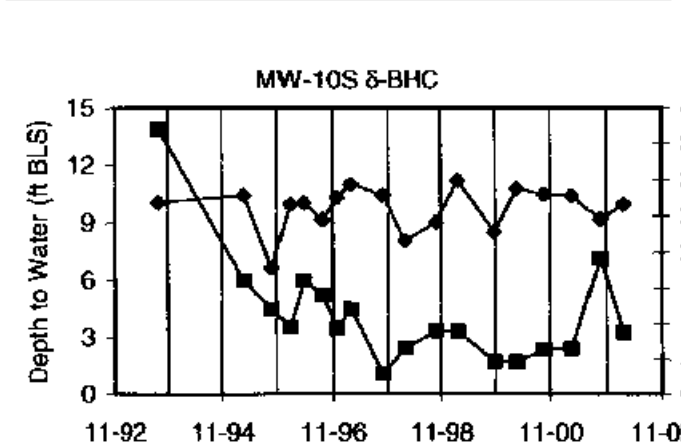


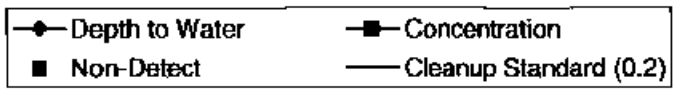
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



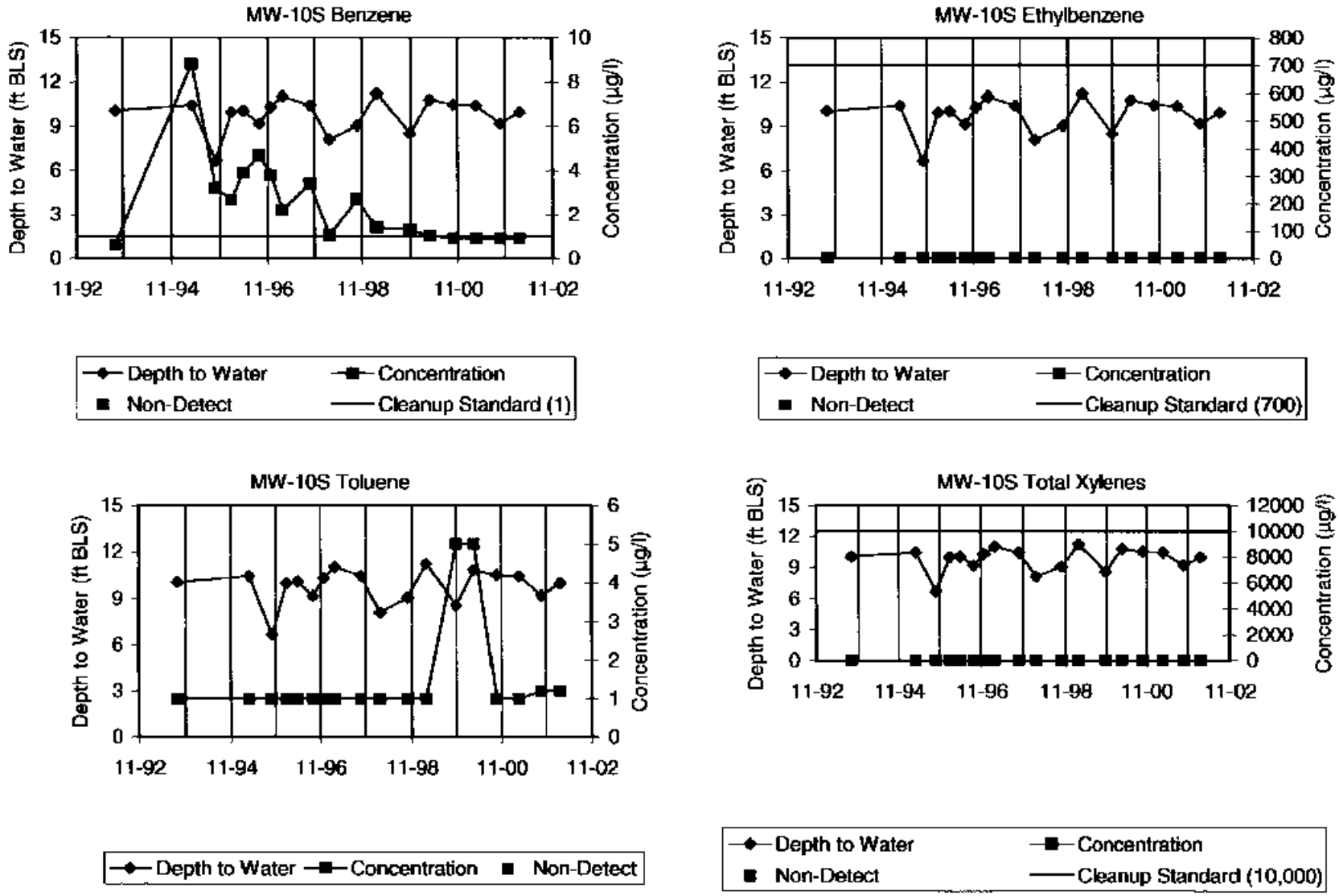




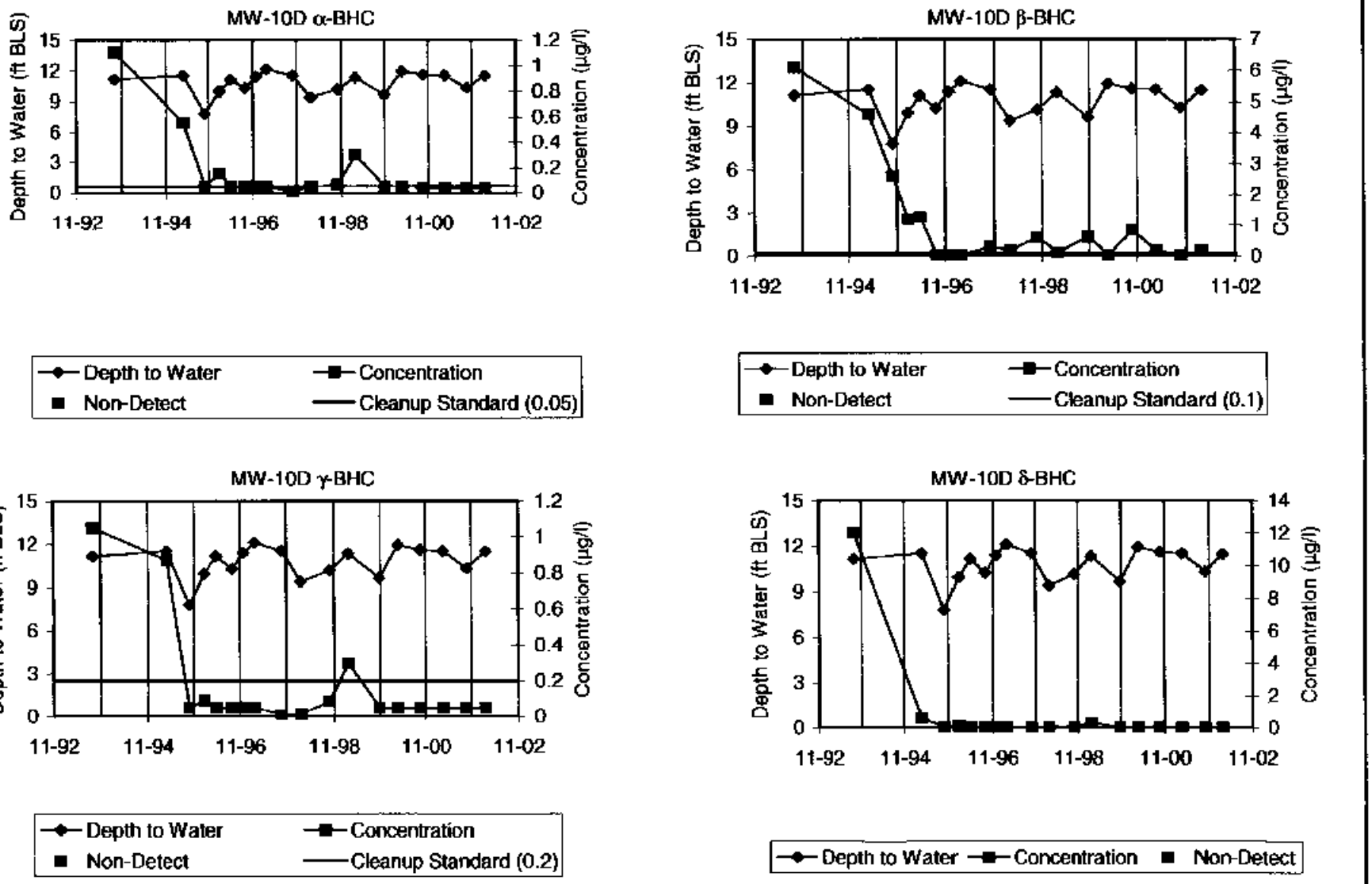




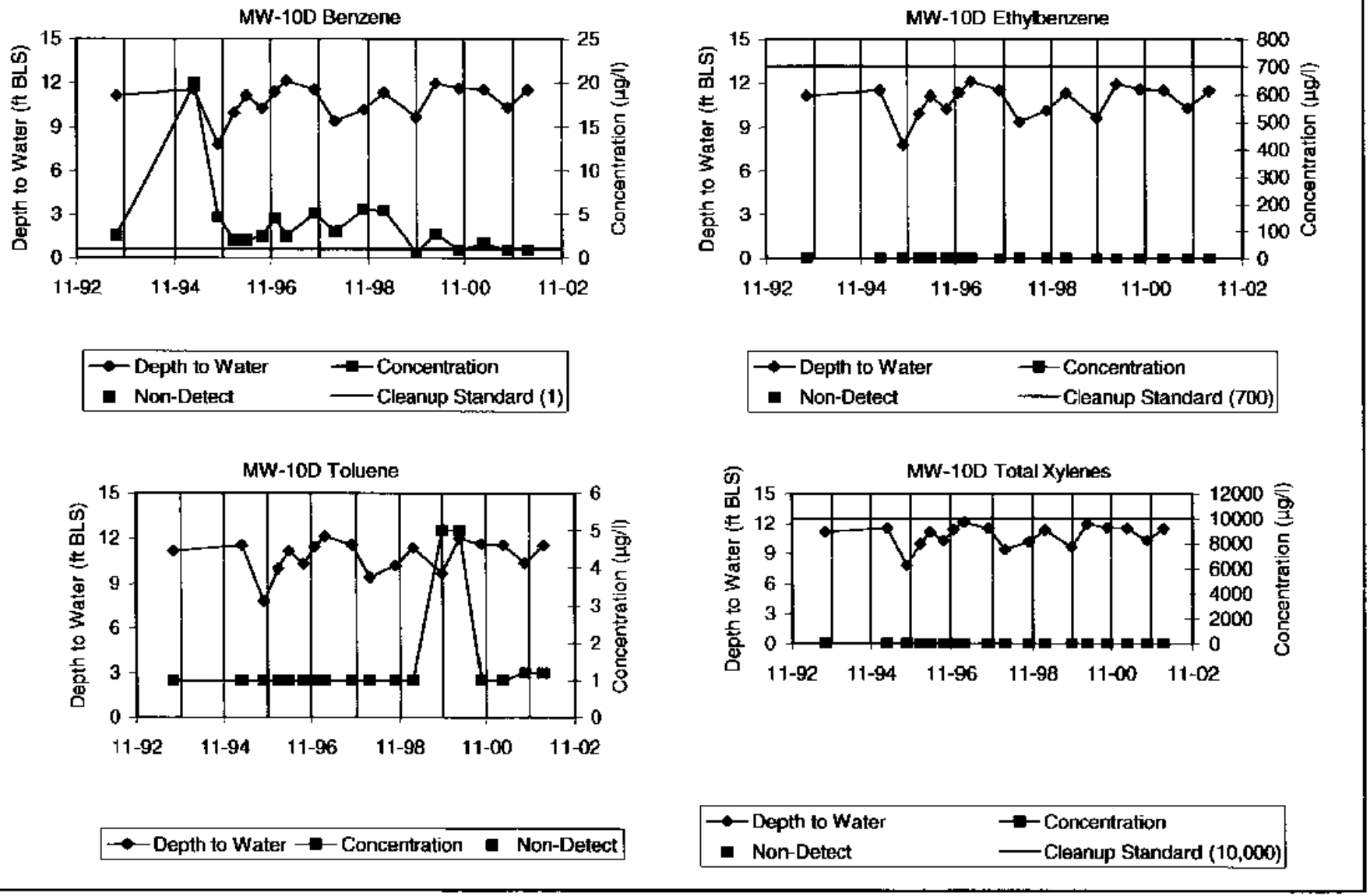
Generation 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



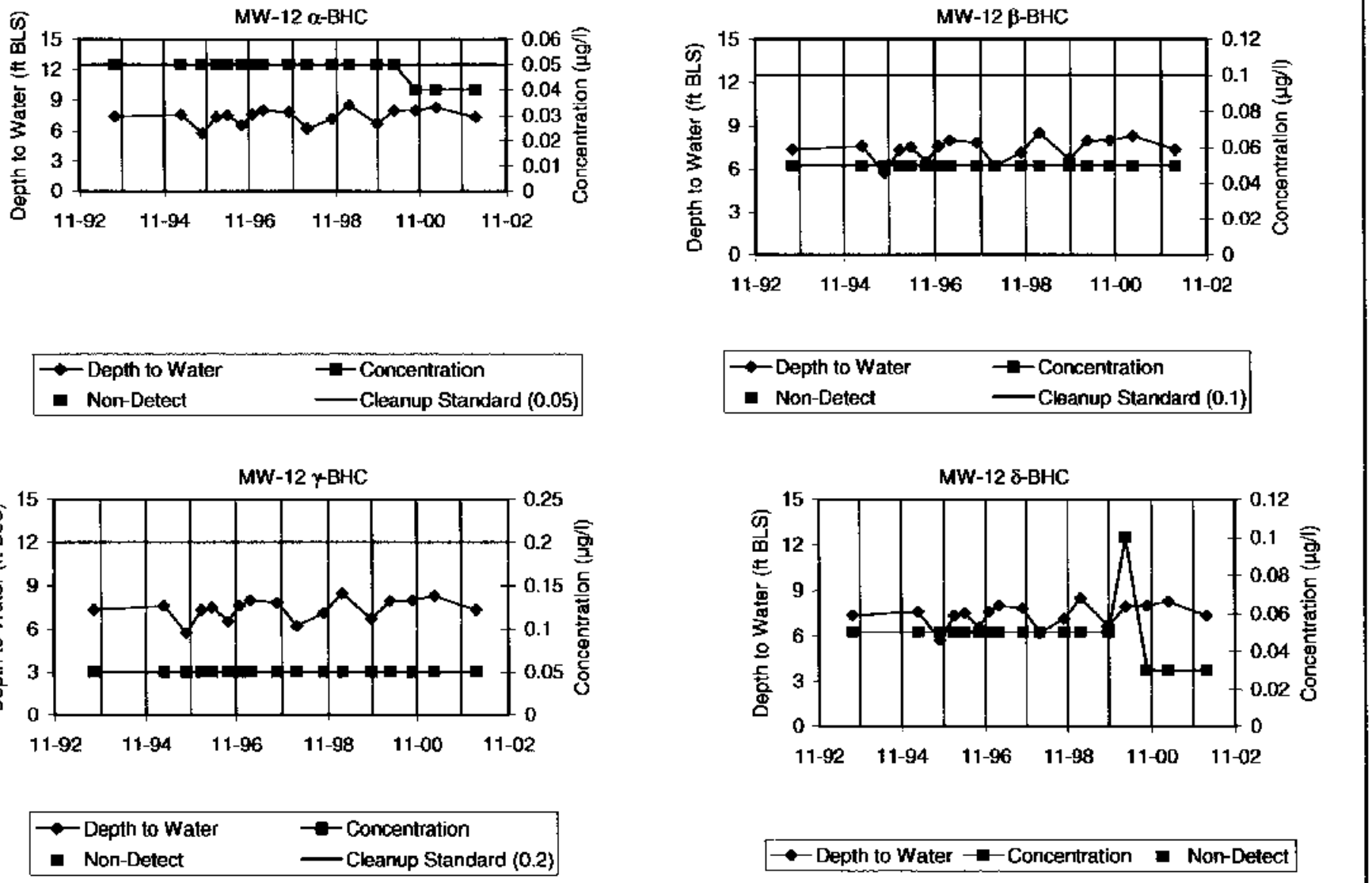
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



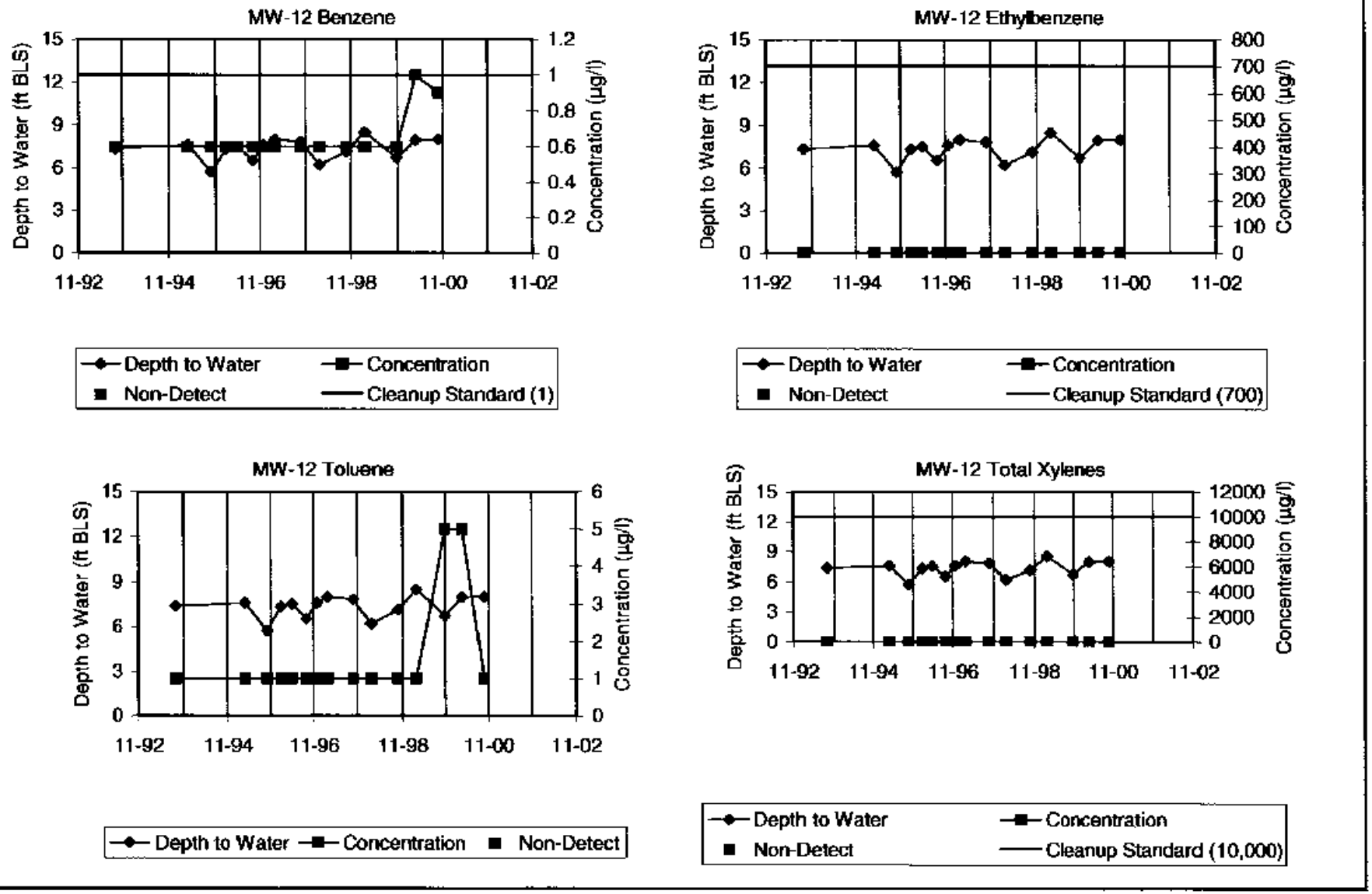
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



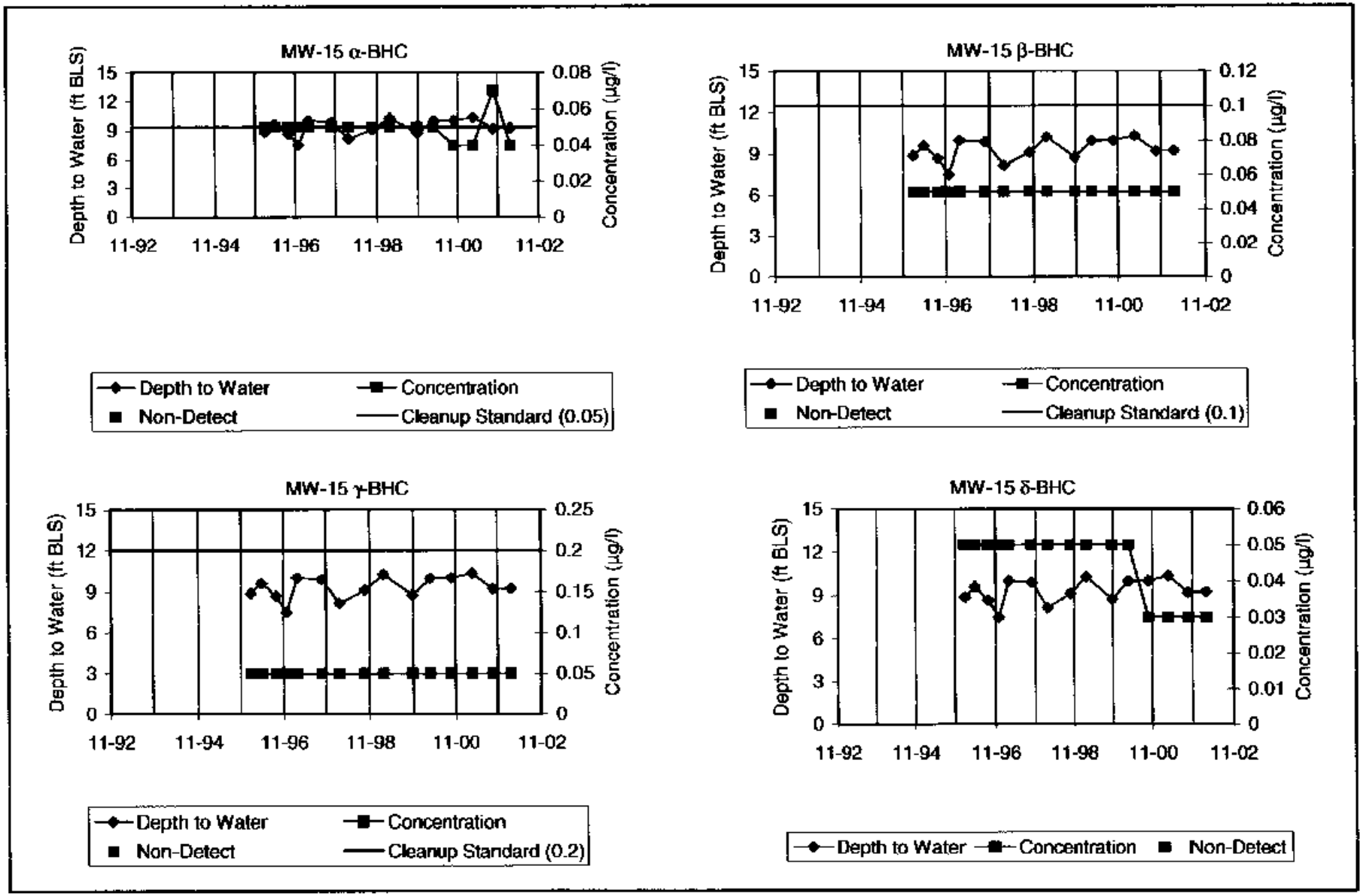
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



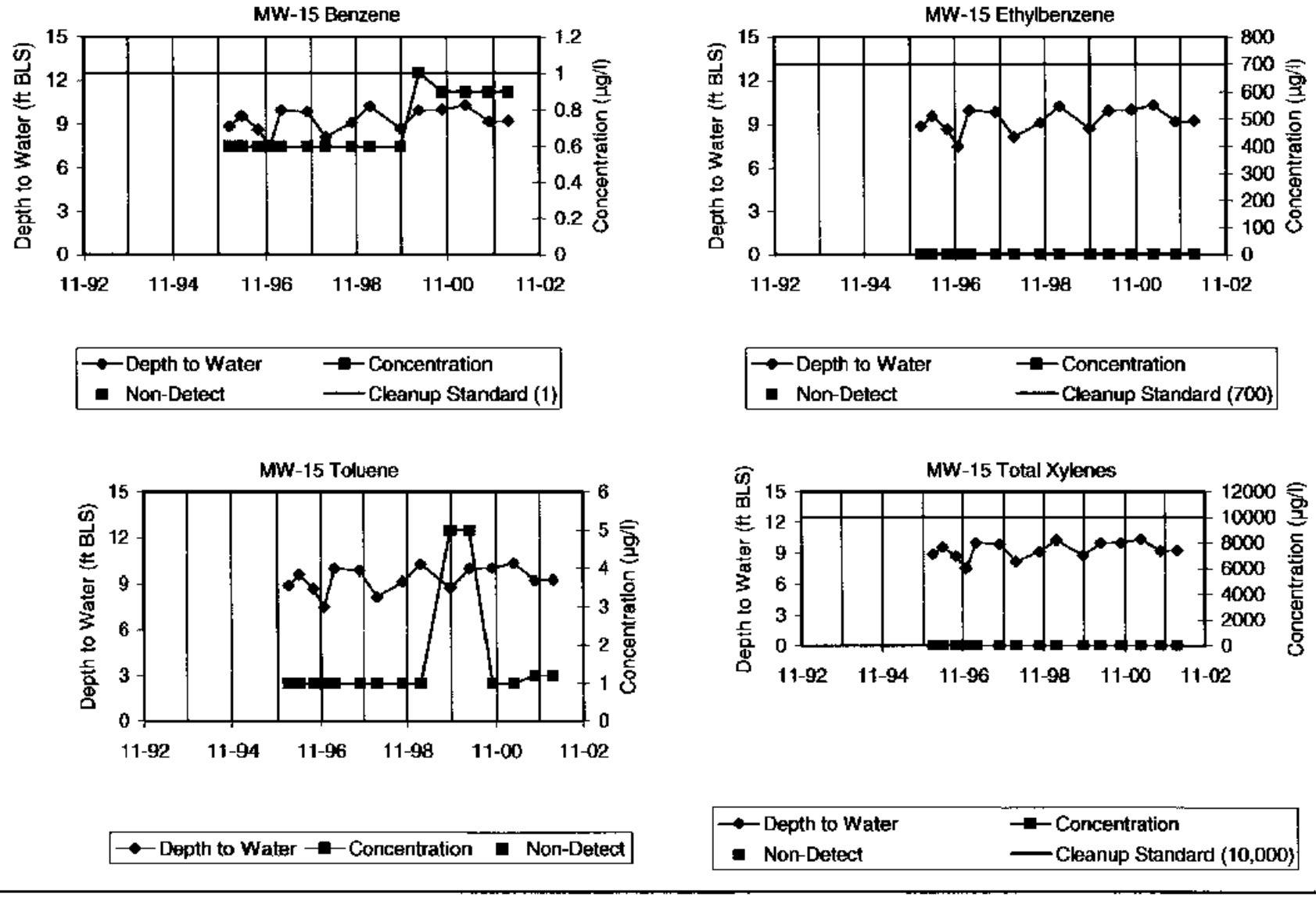
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



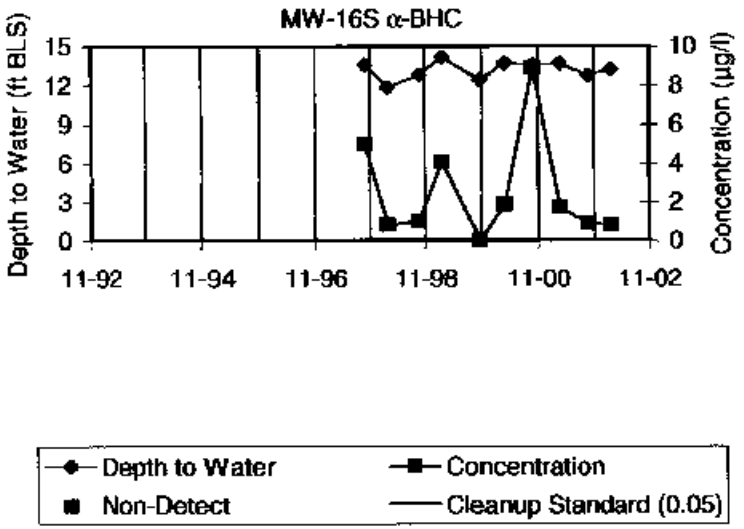
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

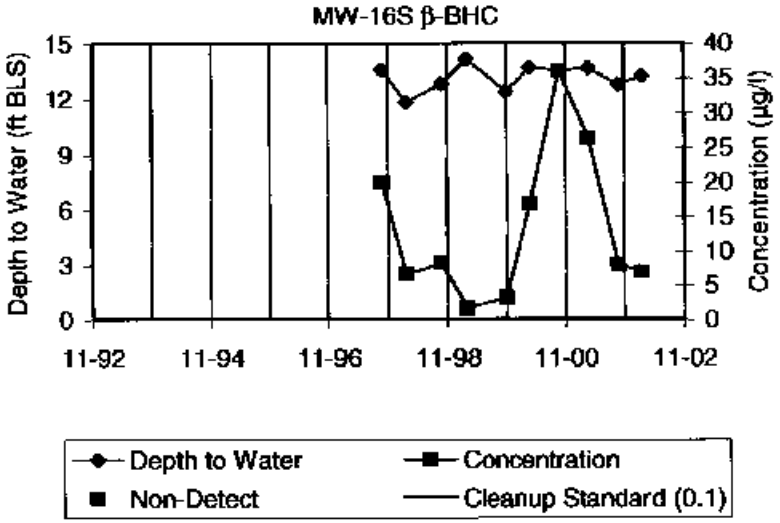


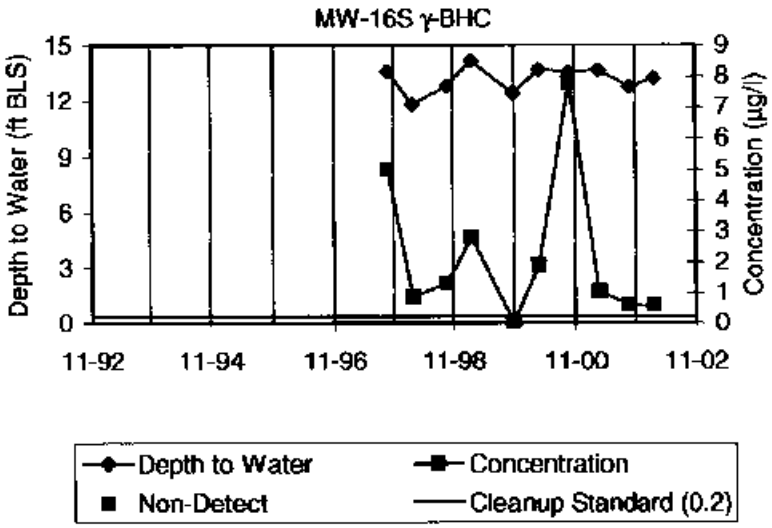
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

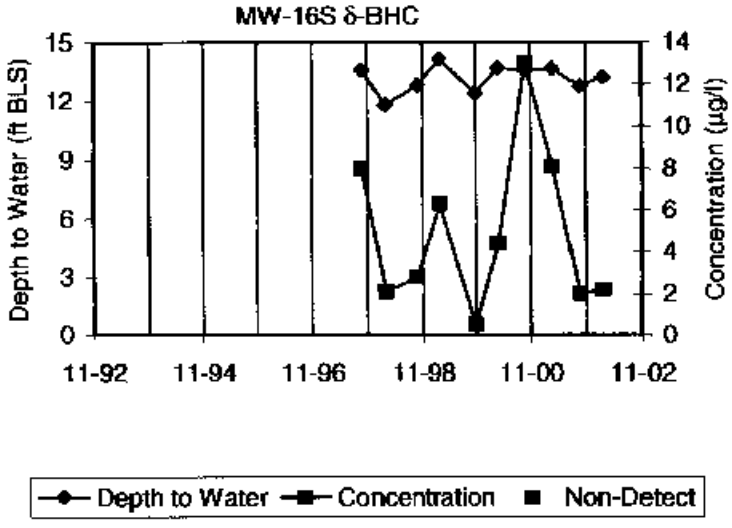


Generation Date: 01/13/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

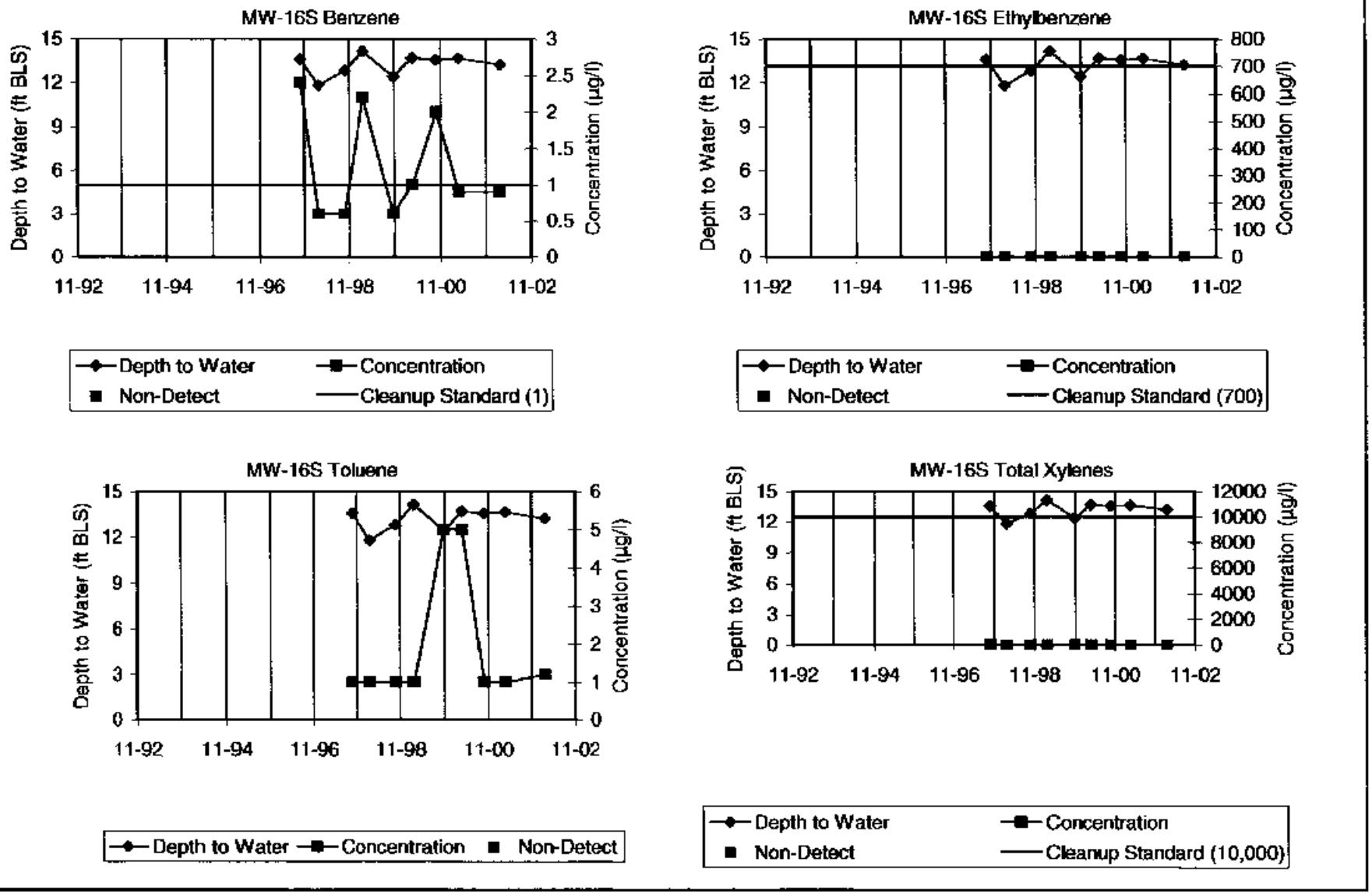




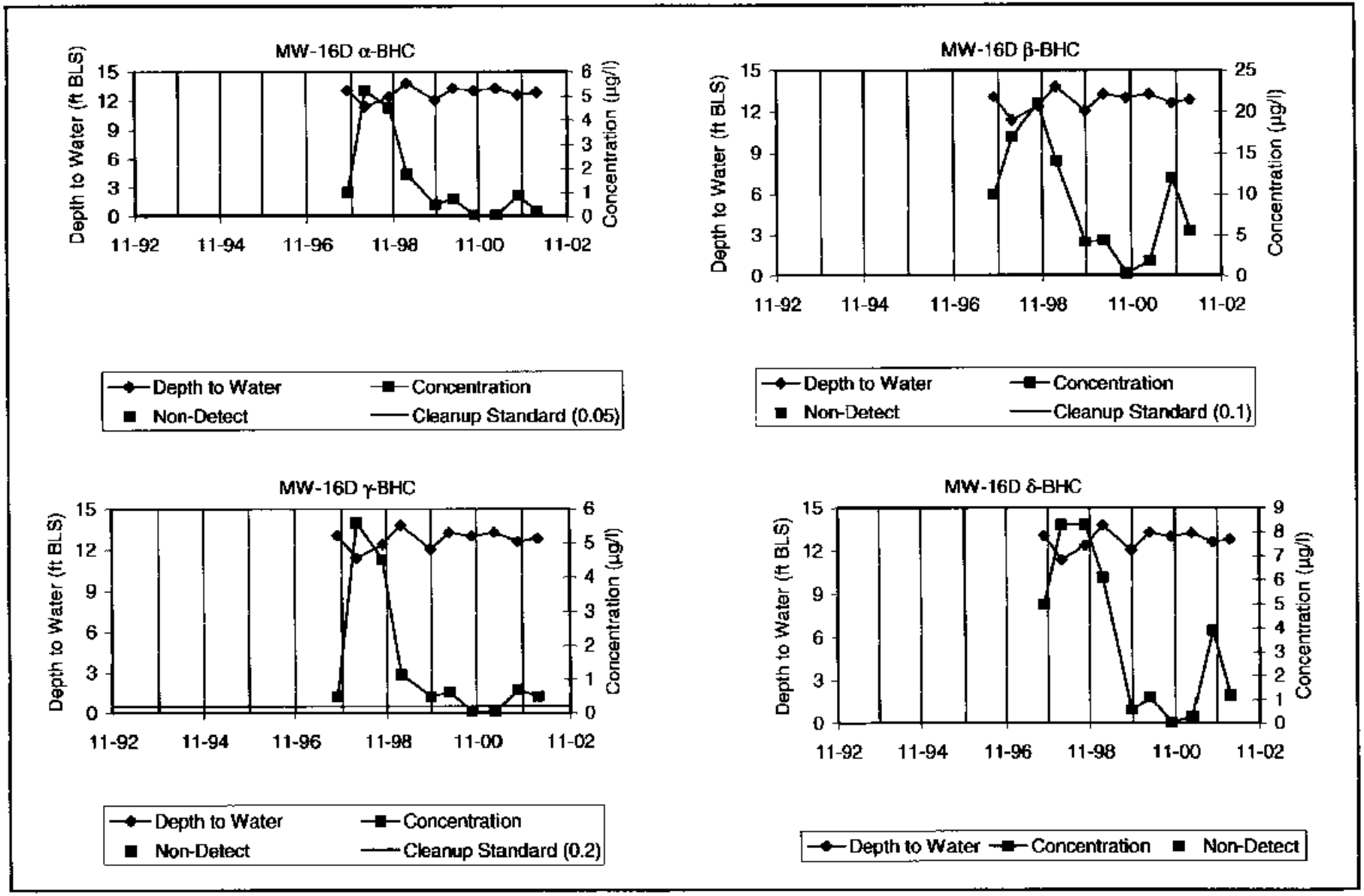




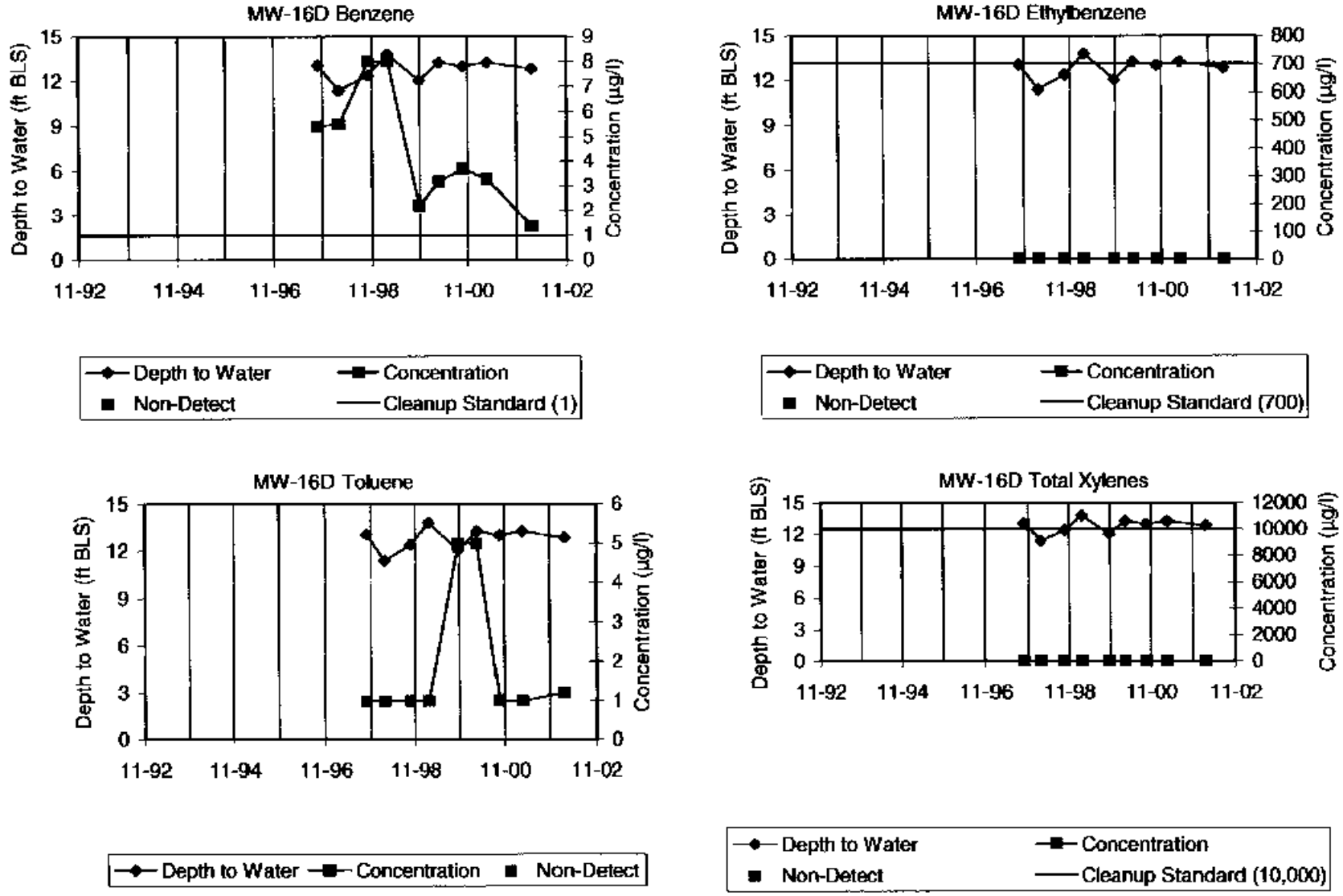
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



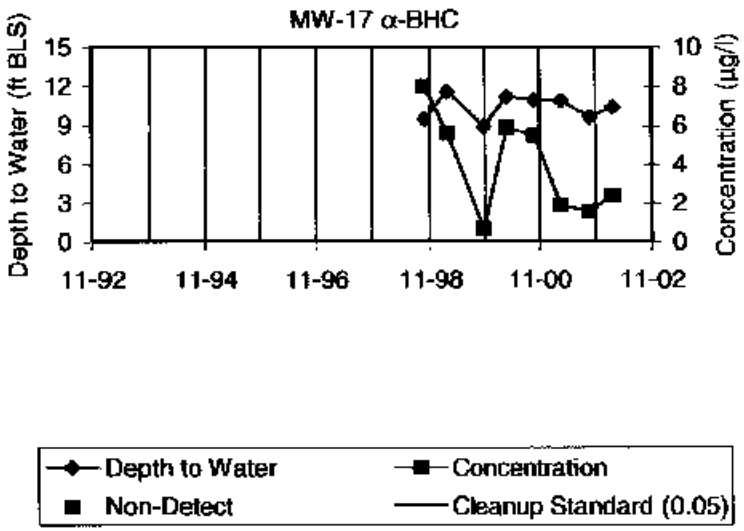
Generation Date: 03/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

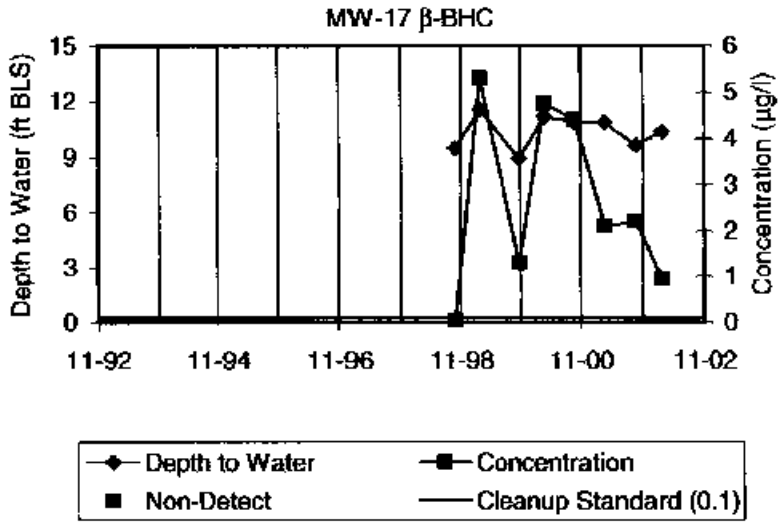


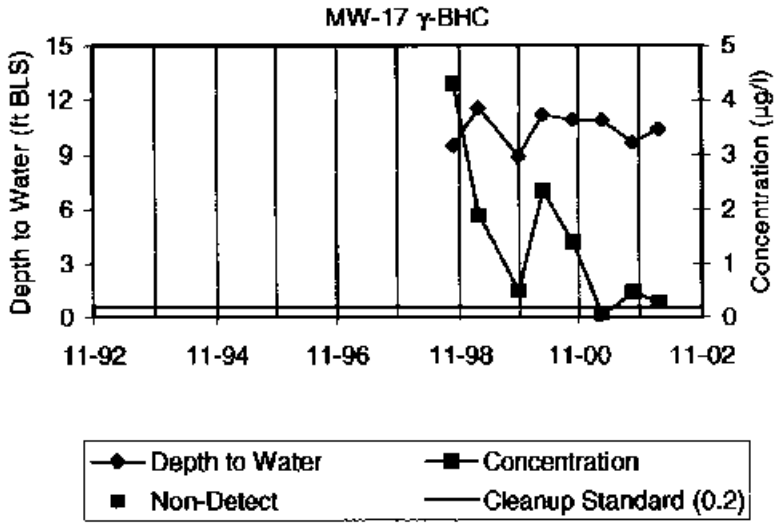
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

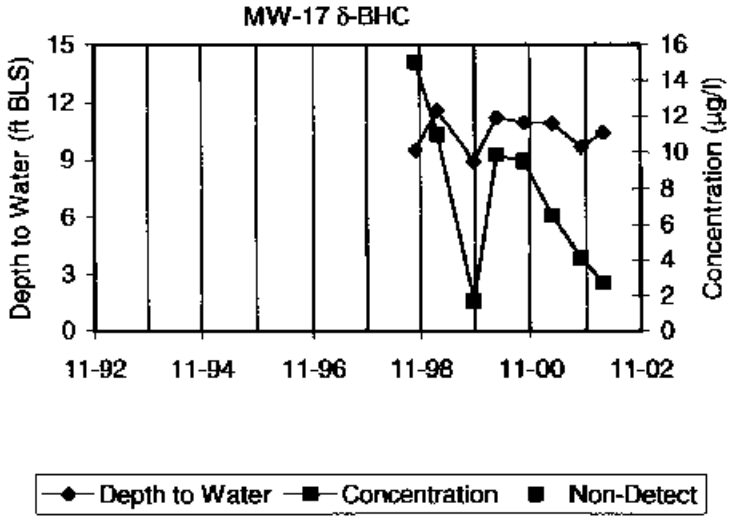


Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

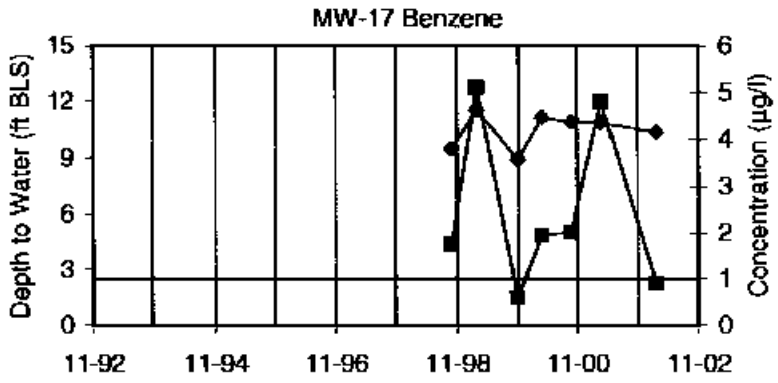


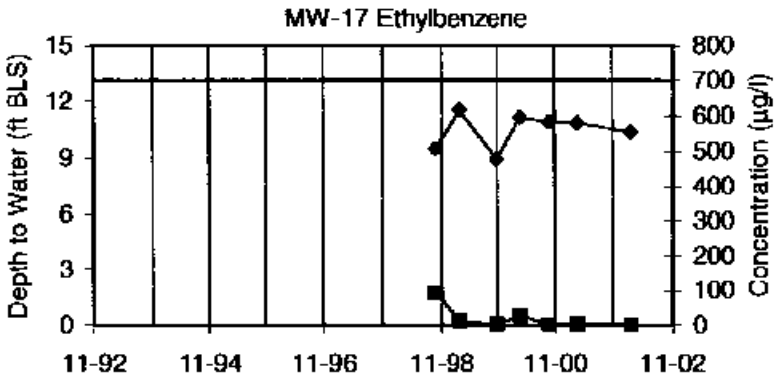


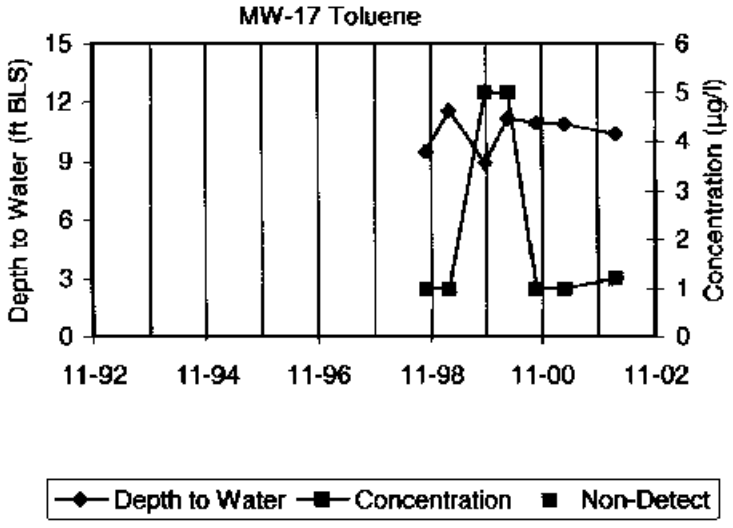


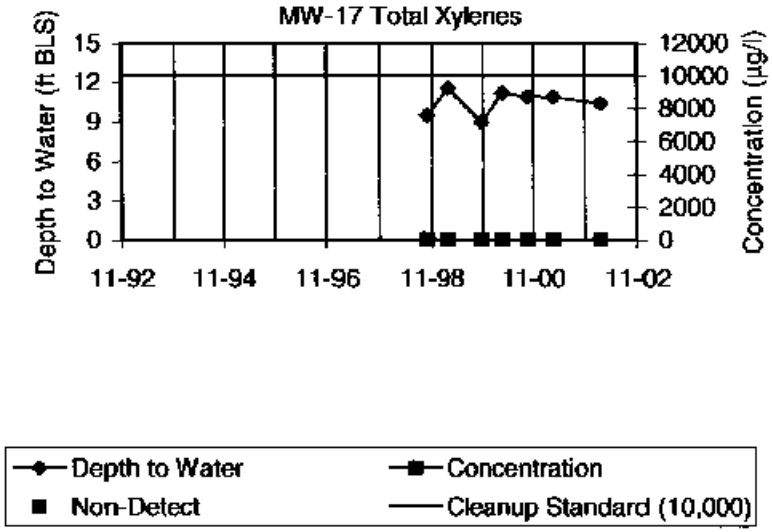


Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

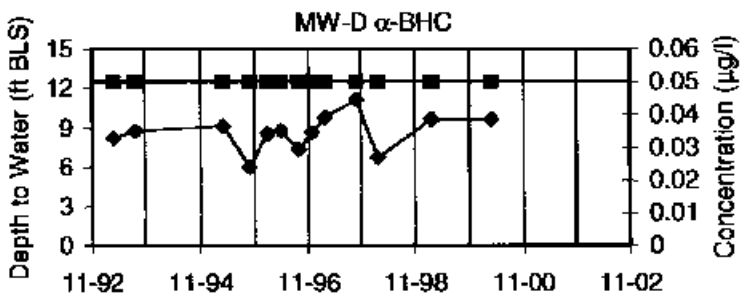


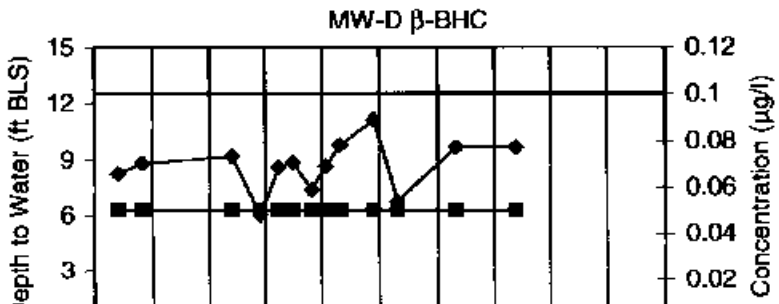


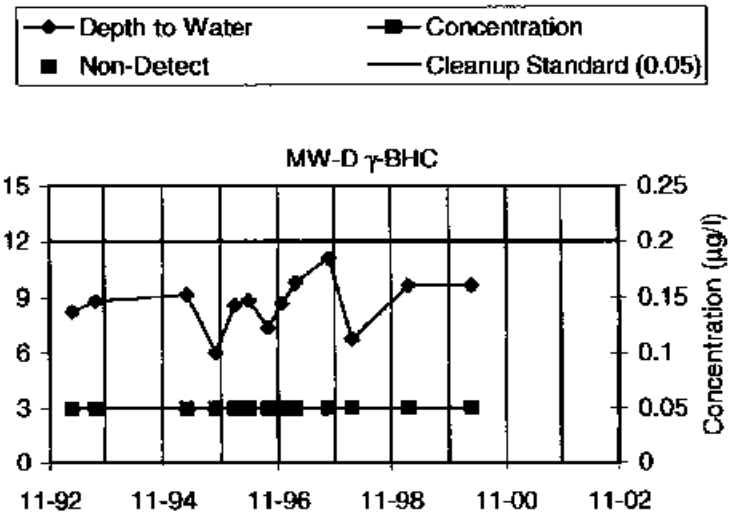


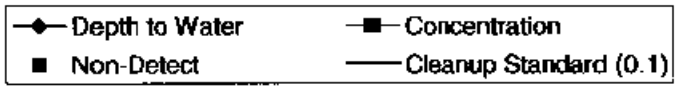


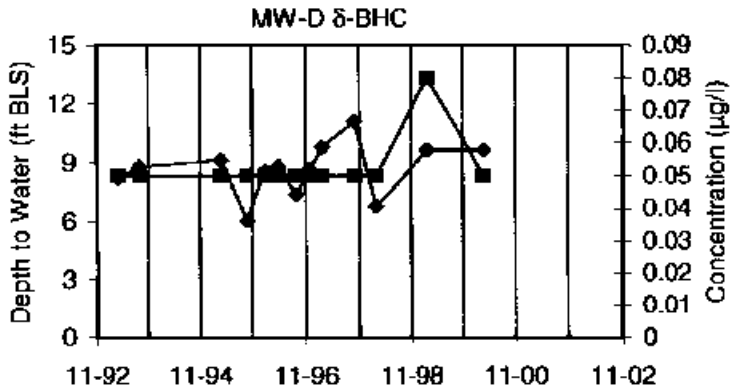
Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

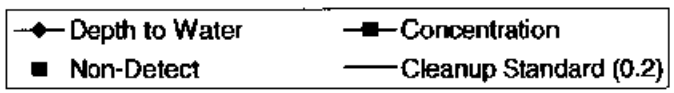


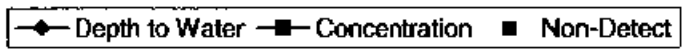




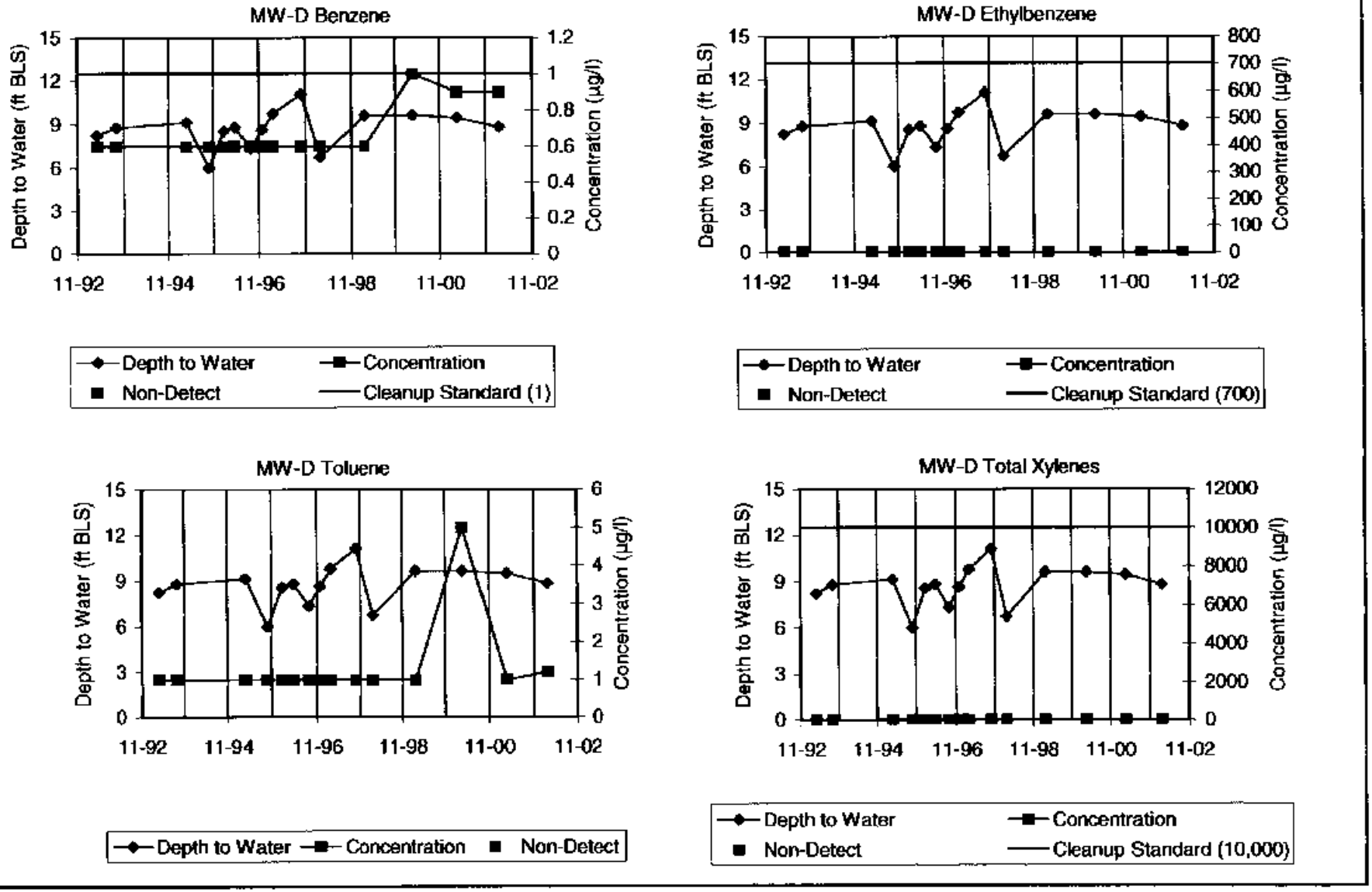








Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega



Generation Date: 3/21/03	Figure C-1. Depth to Water vs. Concentration at Chevron Orlando, Florida October 2001.	Geomega

Appendix D SunLabs Data Sheets

Susan Tobin
Task Environmental Consultants, Inc.
501 South Boulevard
Tampa, FL 33606

September 26, 2002

Re: SunLabs Project Number: 020905.02
Client Project Description: Chevron Orlando

Dear Mrs. Tobin:

Enclosed is the report of laboratory analysis for the following samples:

Sample Number	Sample Description	Date Collected
14213	CO-EQBLNK-1	8/ 4/02
14214	CO-MW-1S	9/ 4/02
14215	CO-MW-5D	9/ 4/02
14216	CO-MW-5S	9/ 4/02
14217	CO-MW-16S	9/ 4/02
14218	CO-MW-16D	9/ 4/02
14219	Travel Blank	
14220	CO-FLDBLNK-1	9/ 5/02
14221	CO-EQBLNK-2	9/ 5/02
14222	CO-MW-8S	9/ 5/02
14223	CO-MW-8D	9/ 5/02
14224	CO-MW-9D	9/ 5/02
14225	CO-MW-10S	9/ 5/02
14226	CO-MW-10D	9/ 5/02
14227	CO-MW-17	9/ 5/02
14228	CO-MW-1S	9/ 5/02
14229	CO-MW-1D	9/ 5/02
14230	CO-MW-101D	9/ 5/02
14231	CO-MW-2S	9/ 5/02
14232	CO-MW-2D	9/ 5/02
14233	CO-MW-3S	9/ 5/02
14234	CO-MW-103S	9/ 5/02
14235	Travel Blank-2	
14236	CO-EQBLNK-3	9/ 6/02
14237	CO-MW-3D	9/ 6/02
14238	CO-MW-4S	9/ 6/02
14239	CO-MW-104S	9/ 6/02
14240	CO-MW-4D	9/ 6/02

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- These samples were received at the proper temperature and were analyzed as received unless otherwise specified. The results herein relate only to the items tested or to the samples as received by the laboratory.
- This report shall not be reproduced except in full, without the written approval of the laboratory.
- Results for all solid matrices are reported on a dry weight basis, unless otherwise specified.
- Results for all water/liquid matrices are analyzed on an as received basis, unless otherwise specified.
- All samples will be disposed of within 45 days of the date of receipt of the samples.
- Unless otherwise stated, all samples in the body of the report are environmental samples. All results in the Quality Control (QC) section are labeled appropriately.
- All results meet the requirements of the NELAC standards where applicable or as otherwise specified.
- Footnotes are given at the end of the report, when applicable.
- Uncertainty values are available upon request.

If you have any questions or comments concerning this report, please do not hesitate to contact us.

Sincerely,

Michael W. Palmer
Vice President, Laboratory Operations

Enclosures

SunLabs, Inc.

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Report of Laboratory Analysis

SunLabs Project Number
020905.02

Task Environmental Consultants, Inc.
Project Description
Chevron Orlando

September 26, 2002

SunLabs Sample Number			14213
Sample Designation			CO-EQBLNK-1
Date Collected			9/4/02 15:00
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/11/02
Surrogate	8081	%	83
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

FDEP CompQAP 970077

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14214
Sample Designation			CO-MW-15
Date Collected			9/4/02 15:05
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	68
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

FDEP CompQAP 970077

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Report of Laboratory Analysis

SunLabs Project Number
020905.02

Task Environmental Consultants, Inc.

Project Description
Chevron Orlando

September 26, 2002

SunLabs Sample Number			14215
Sample Designation			CO-MW-5D
Date Collected			9/4/02 15:40

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	73
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U

FDEP CompQAP 970077

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14216
Sample Designation			CO-MW-5S
Date Collected			9/4/02 16:05
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	73
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.07
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number	14217
Sample Designation	CO-MW-16S
Date Collected	9/4/02 16:40

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	103
a-BHC	8081	ug/L	0.77
b-BHC	8081	ug/L	4.8
Lindane	8081	ug/L	0.51
d-BHC	8081	ug/L	1.8
Heptachlor	8081	ug/L	0.4 K
Aldrin	8081	ug/L	0.4 K
Heptachlor epoxide	8081	ug/L	0.5 K
a-Chlordane	8081	ug/L	1 K
g-Chlordane	8081	ug/L	1 K
Endosulfan I	8081	ug/L	0.5 K
Dieldrin	8081	ug/L	0.43
p,p'-DDE	8081	ug/L	1 K
Endrin	8081	ug/L	1 K
Endosulfan II	8081	ug/L	1 K
p,p'-DDD	8081	ug/L	0.5 K
Endrin aldehyde	8081	ug/L	1 K
Endosulfan sulfate	8081	ug/L	1 K
p,p'-DDT	8081	ug/L	1 K
Endrin ketone	8081	ug/L	1 K
Methoxychlor	8081	ug/L	1 K
Toxaphene	8081	ug/L	30 K
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

FDEP CompQAP 970077

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number		14218
Sample Designation		CO-MW-16D
Date Collected		9/4/02 17:15

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/13/02
Surrogate	8081	%	54
a-BHC	8081	ug/L	0.76
b-BHC	8081	ug/L	0.76
Lindane	8081	ug/L	0.04
d-BHC	8081	ug/L	0.13
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	2.0
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	2.0

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number		14219
Sample Designation		Travel Blank
Date Collected		/ /

Parameters	Method	Units	Results
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

FDEP CompQAP 970077

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Report of Laboratory Analysis

SunLabs Project Number
020905.02

Task Environmental Consultants, Inc.
Project Description
Chevron Orlando

September 26, 2002

SunLabs Sample Number			14220
Sample Designation			CO-FLDBLNK-1
Date Collected			9/5/02 08:10
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	69
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number	14221
Sample Designation	CO-EQBLNK-2
Date Collected	9/5/02 08:15

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	22 MI
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number		14222
Sample Designation		CO-MW-BS
Date Collected		9/5/02 08:20

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	66
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.05 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14223
Sample Designation			CO-MW-8D
Date Collected			9/5/02 08:55
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	58
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
eptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14224
Sample Designation			CO-MW-9D
Date Collected			9/5/02 09:30
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	60
a-BHC	8081	ug/L	0.08
b-BHC	8081	ug/L	0.39
Lindane	8081	ug/L	0.61
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.37
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

FDEP CompQAP 970077

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14225
Sample Designation			CO-MW-10S
Date Collected			9/5/02 10:05
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/13/02
Surrogate	8081	%	83
a-BHC	8081	ug/L	0.59
b-BHC	8081	ug/L	27
Lindane	8081	ug/L	0.28
d-BHC	8081	ug/L	5.9
Heptachlor	8081	ug/L	0.4 K
Aldrin	8081	ug/L	0.4 K
eptachlor epoxide	8081	ug/L	0.5 K
a-Chlordane	8081	ug/L	1 K
g-Chlordane	8081	ug/L	1 K
Endosulfan I	8081	ug/L	0.5 K
Dieldrin	8081	ug/L	0.3 K
p,p'-DDE	8081	ug/L	1 K
Endrin	8081	ug/L	1 K
Endosulfan II	8081	ug/L	1 K
p,p'-DDD	8081	ug/L	0.5 K
Endrin aldehyde	8081	ug/L	1 K
Endosulfan sulfate	8081	ug/L	1 K
p,p'-DDT	8081	ug/L	1 K
Endrin ketone	8081	ug/L	0.81
Methoxychlor	8081	ug/L	1 K
Toxaphene	8081	ug/L	30 K
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number	14226
Sample Designation	CO-MW-10D
Date Collected	9/5/02 11:25

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	66
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14227
Sample Designation			CO-MW-17
Date Collected			9/5/02 12:00
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	84
a-BHC	8081	ug/L	1.6
b-BHC	8081	ug/L	1.3
Lindane	8081	ug/L	0.37
d-BHC	8081	ug/L	1.9
Heptachlor	8081	ug/L	0.4 K
Aldrin	8081	ug/L	0.4 K
Heptachlor epoxide	8081	ug/L	0.5 K
a-Chlordane	8081	ug/L	1 K
g-Chlordane	8081	ug/L	1 K
Endosulfan I	8081	ug/L	0.5 K
Dieldrin	8081	ug/L	0.3 K
p,p'-DDE	8081	ug/L	1 K
Endrin	8081	ug/L	1 K
Endosulfan II	8081	ug/L	1 K
p,p'-DDD	8081	ug/L	0.5 K
Endrin aldehyde	8081	ug/L	1 K
Endosulfan sulfate	8081	ug/L	1 K
p,p'-DDT	8081	ug/L	1 K
Endrin ketone	8081	ug/L	1 K
Methoxychlor	8081	ug/L	1 K
Toxaphene	8081	ug/L	30 K
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

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Report of Laboratory Analysis

SunLabs Project Number
020905.02

Task Environmental Consultants, Inc.
Project Description
Chevron Orlando

September 26, 2002

SunLabs Sample Number	14228
Sample Designation	CO-MW-1S
Date Collected	9/5/02 13:45

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	63
a-BHC	8081	ug/L	0.13
b-BHC	8081	ug/L	0.20
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.32
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14229
Sample Designation			CG-MW-1D
Date Collected			9/5/02 14:15
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/6/02
Date Analyzed			9/12/02
Surrogate	8081	%	81
a-BHC	8081	ug/L	1.3
b-BHC	8081	ug/L	0.63
Lindane	8081	ug/L	0.5 K
d-BHC	8081	ug/L	2.0
Heptachlor	8081	ug/L	0.4 K
Aldrin	8081	ug/L	0.4 K
eptachlor epoxide	8081	ug/L	0.5 K
a-Chlordane	8081	ug/L	1 K
g-Chlordane	8081	ug/L	1 K
Endosulfan I	8081	ug/L	0.5 K
Dieldrin	8081	ug/L	0.3 K
p,p'-DDE	8081	ug/L	1 K
Endrin	8081	ug/L	1 K
Endosulfan II	8081	ug/L	1 K
p,p'-DDD	8081	ug/L	0.5 K
Endrin aldehyde	8081	ug/L	1 K
Endosulfan sulfate	8081	ug/L	1 K
p,p'-DDT	8081	ug/L	1 K
Endrin ketone	8081	ug/L	1 K
Methoxychlor	8081	ug/L	1 K
Toxaphene	8081	ug/L	30 K
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	4.8
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	41
Total Xylenes	8021	ug/L	86
Total VOA	8021	ug/L	131.8

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number	14230
Sample Designation	CO-MW-101D
Date Collected	9/5/02 14:20

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/9/02
Date Analyzed			9/12/02
Surrogate	8081	%	89
a-BHC	8081	ug/L	1.8
b-BHC	8081	ug/L	1.0
Lindane	8081	ug/L	0.5 K
d-BHC	8081	ug/L	2.5
Heptachlor	8081	ug/L	0.4 K
Aldrin	8081	ug/L	0.4 K
eptachlor epoxide	8081	ug/L	0.5 K
-Chlordane	8081	ug/L	1 K
g-Chlordane	8081	ug/L	1 K
Endosulfan I	8081	ug/L	0.5 K
Dieldrin	8081	ug/L	0.3 K
p,p'-DDE	8081	ug/L	1 K
Endrin	8081	ug/L	1 K
Endosulfan II	8081	ug/L	1 K
p,p'-DDD	8081	ug/L	0.5 K
Endrin aldehyde	8081	ug/L	1 K
Endosulfan sulfate	8081	ug/L	1 K
p,p'-DDT	8081	ug/L	1 K
Endrin ketone	8081	ug/L	1 K
Methoxychlor	8081	ug/L	1 K
Toxaphene	8081	ug/L	30 K
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	4.7
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	40
Total Xylenes	8021	ug/L	63
Total VOA	8021	ug/L	127.7

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number	14231
Sample Designation	CO-MW-2S
Date Collected	9/5/02 15:00

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/9/02
Date Analyzed			9/12/02
Surrogate	8081	%	58
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number		14232
Sample Designation		CO-MW-2D
Date Collected		9/5/02 15:25

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/9/02
Date Analyzed			9/12/02
Surrogate	8081	%	39
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.32
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14233
Sample Designation			CO-MW-3S
Date Collected			9/5/02 16:05
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/9/02
Date Analyzed			9/12/02
Surrogate	8081	%	64
a-BHC	8081	ug/L	0.21
b-BHC	8081	ug/L	0.21
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.16
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	5.3
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	5.7
Total Xylenes	8021	ug/L	11
Total VOA	8021	ug/L	22

Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number	14234
Sample Designation	CO-MW-103S
Date Collected	9/5/02 16:10

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/9/02
Date Analyzed			9/12/02
Surrogate	8081	%	46
a-BHC	8081	ug/L	0.15
b-BHC	8081	ug/L	0.19
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.13
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	5.7
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	4.4
Total Xylenes	8021	ug/L	9.5
Total VOA	8021	ug/L	19.6

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Report of Laboratory Analysis

SunLabs Project Number
020905.02

Task Environmental Consultants, Inc.
Project Description
Chevron Orlando

September 26, 2002

SunLabs Sample Number		14235
Sample Designation		Travel Blank-2
Date Collected		/ /

Parameters	Method	Units	Results
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.8 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14238
Sample Designation			CO-EQBLNK-3
Date Collected			9/6/02 09:35
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/9/02
Date Analyzed			9/12/02
Surrogate	8081	%	94
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05 U
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
eptachlor epoxide	8081	ug/L	0.05 U
Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number			14237
Sample Designation			CO-MW-3D
Date Collected			9/6/02 09:40
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/9/02
Date Analyzed			9/12/02
Surrogate	8081	%	75
a-BHC	8081	ug/L	0.04 U
b-BHC	8081	ug/L	0.05
Lindane	8081	ug/L	0.05 U
d-BHC	8081	ug/L	0.03 U
Heptachlor	8081	ug/L	0.04 U
Aldrin	8081	ug/L	0.04 U
Heptachlor epoxide	8081	ug/L	0.05 U
a-Chlordane	8081	ug/L	0.1 U
g-Chlordane	8081	ug/L	0.1 U
Endosulfan I	8081	ug/L	0.05 U
Dieldrin	8081	ug/L	0.03 U
p,p'-DDE	8081	ug/L	0.10 U
Endrin	8081	ug/L	0.10 U
Endosulfan II	8081	ug/L	0.10 U
p,p'-DDD	8081	ug/L	0.05 U
Endrin aldehyde	8081	ug/L	0.10 U
Endosulfan sulfate	8081	ug/L	0.10 U
p,p'-DDT	8081	ug/L	0.10 U
Endrin ketone	8081	ug/L	0.10 U
Methoxychlor	8081	ug/L	0.10 U
Toxaphene	8081	ug/L	3.0 U
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.9 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

Report of Laboratory Analysis

SunLabs Project Number
020905.02

Task Environmental Consultants, Inc.
Project Description
Chevron Orlando

September 26, 2002

SunLabs Sample Number		14238
Sample Designation		CO-MW-4S
Date Collected		9/6/02 10:10

Parameters	Method	Units	Results
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/9/02
Date Analyzed			9/12/02
Surrogate	8081	%	113
a-BHC	8081	ug/L	1.9
b-BHC	8081	ug/L	5.2
Lindane	8081	ug/L	0.5 K
d-BHC	8081	ug/L	3.2
Heptachlor	8081	ug/L	0.4 K
Aldrin	8081	ug/L	0.4 K
Heptachlor epoxide	8081	ug/L	0.5 K
Chlordane	8081	ug/L	1 K
g-Chlordane	8081	ug/L	1 K
Endosulfan I	8081	ug/L	0.5 K
Dieldrin	8081	ug/L	0.3 K
p,p'-DDE	8081	ug/L	1 K
Endrin	8081	ug/L	1 K
Endosulfan II	8081	ug/L	1 K
p,p'-DDD	8081	ug/L	0.5 K
Endrin aldehyde	8081	ug/L	1 K
Endosulfan sulfate	8081	ug/L	1 K
p,p'-DDT	8081	ug/L	1 K
Endrin ketone	8081	ug/L	1 K
Methoxychlor	8081	ug/L	1 K
Toxaphene	8081	ug/L	30 K
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	5.0 U
Benzene	8021	ug/L	0.9 U
Toluene	8021	ug/L	1.2 U
Ethylbenzene	8021	ug/L	0.8 U
Total Xylenes	8021	ug/L	2.2 U
Total VOA	8021	ug/L	0.9 U

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Report of Laboratory Analysis

SunLabs Project Number: 020905.02

Task Environmental Consultants, Inc.

Project Description: Chevron Orlando

September 26, 2002

SunLabs Sample Number	14239
Sample Designation	CO-MW-104S
Date Collected	9/6/02 10:15

Parameters	Method	Units	Results	
Organochlorine Pesticides by EPA Method 8081				
Date Extracted			9/9/02	
Date Analyzed			9/13/02	
Surrogate	8081	%	106	
a-BHC	8081	ug/L	2.4	
b-BHC	8081	ug/L	6.5	
Lindane	8081	ug/L	0.5	K
d-BHC	8081	ug/L	3.8	
Heptachlor	8081	ug/L	0.4	K
Aldrin	8081	ug/L	0.4	K
ptachlor epoxide	8081	ug/L	0.5	K
chlordane	8081	ug/L	1	K
g-Chlordane	8081	ug/L	1	K
Endosulfan I	8081	ug/L	0.5	K
Dieldrin	8081	ug/L	0.3	K
p,p'-DDE	8081	ug/L	1	K
Endrin	8081	ug/L	1	K
Endosulfan II	8081	ug/L	1	K
p,p'-DDD	8081	ug/L	0.5	K
Endrin aldehyde	8081	ug/L	1	K
Endosulfan sulfate	8081	ug/L	1	K
p,p'-DDT	8081	ug/L	1	K
Endrin ketone	8081	ug/L	1	K
Methoxychlor	8081	ug/L	1	K
Toxaphene	8081	ug/L	30	K
Volatile Organic Compounds by Method 8021				
Date Analyzed			9/10/02	
MTBE	8021	ug/L	5.0	U
Benzene	8021	ug/L	0.9	U
Toluene	8021	ug/L	1.2	U
Ethylbenzene	8021	ug/L	0.9	U
Total Xylenes	8021	ug/L	2.2	U
Total VOA	8021	ug/L	0.9	U

FDEP CompQAP 970077

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Report of Laboratory Analysis

SunLabs Project Number
020905.02

Task Environmental Consultants, Inc.
Project Description
Chevron Orlando

September 26, 2002

SunLabs Sample Number			14240
Sample Designation			CO-MW-4D
Date Collected			9/6/02 10:50
Parameters	**Method**	**Units**	**Results**
Organochlorine Pesticides by EPA Method 8081			
Date Extracted			9/9/02
Date Analyzed			9/13/02
Surrogate	8081	%	70
a-BHC	8081	ug/L	2.2
b-BHC	8081	ug/L	2.2
Lindane	8081	ug/L	0.5 K
d-BHC	8081	ug/L	4.5
Heptachlor	8081	ug/L	0.4 K
Aldrin	8081	ug/L	0.4 K
Heptachlor epoxide	8081	ug/L	1.7
Chlordane	8081	ug/L	1 K
g-Chlordane	8081	ug/L	1 K
Endosulfan I	8081	ug/L	0.5 K
Dieldrin	8081	ug/L	0.3 K
p,p'-DDE	8081	ug/L	1 K
Endrin	8081	ug/L	1 K
Endosulfan II	8081	ug/L	1 K
p,p'-DDD	8081	ug/L	0.5 K
Endrin aldehyde	8081	ug/L	1 K
Endosulfan sulfate	8081	ug/L	1 K
p,p'-DDT	8081	ug/L	1 K
Endrin ketone	8081	ug/L	1 K
Methoxychlor	8081	ug/L	1 K
Toxaphene	8081	ug/L	30 K
Volatile Organic Compounds by Method 8021			
Date Analyzed			9/10/02
MTBE	8021	ug/L	25 K
Benzene	8021	ug/L	14
Toluene	8021	ug/L	5 K
Ethylbenzene	8021	ug/L	120
Total Xylenes	8021	ug/L	330
Total VOA	8021	ug/L	464

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Footnotes

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MB	Method Blank
MI	Matrix Interference
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference